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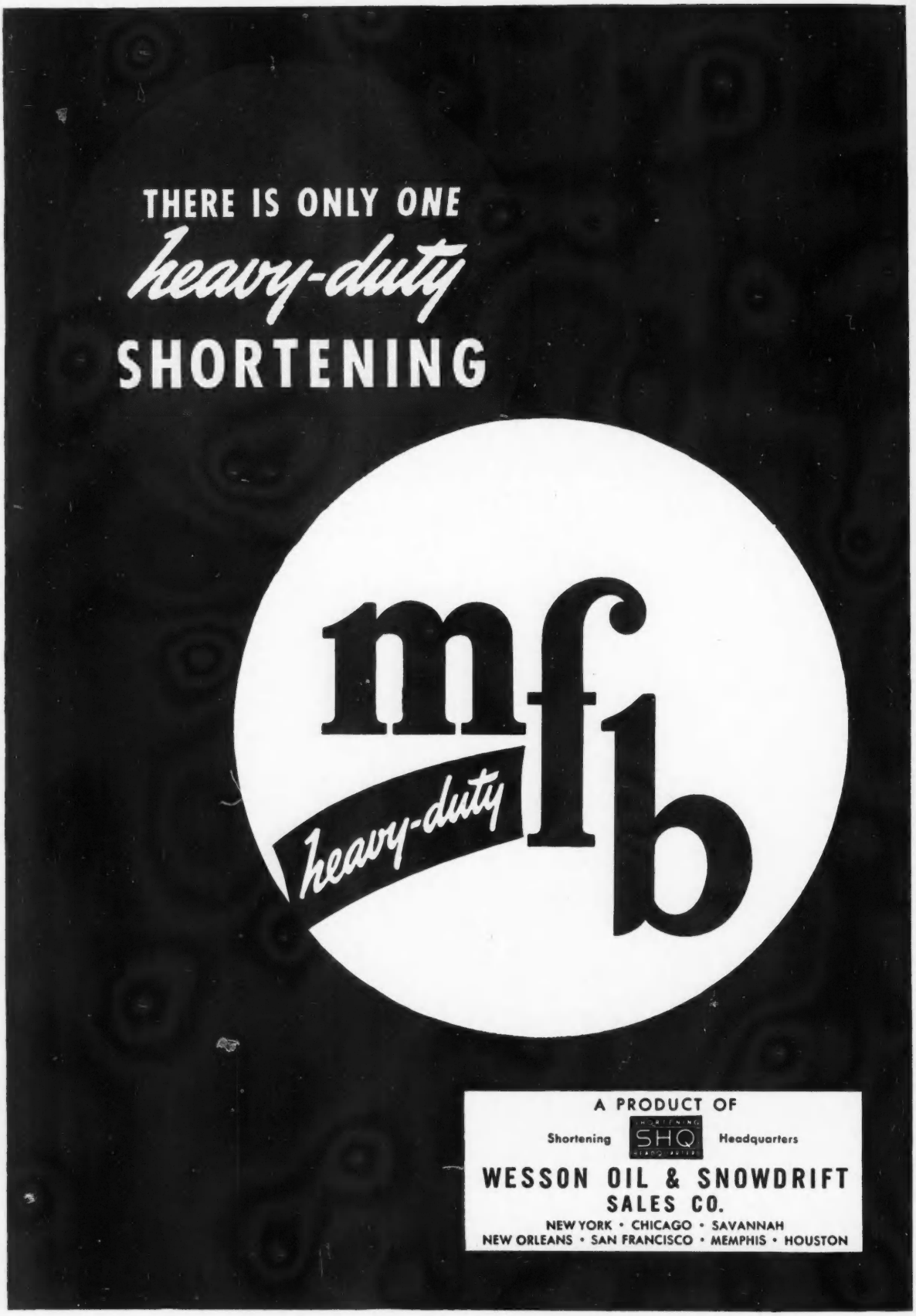
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Design for Progress[1]

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WHEN ONE attempts to evaluate the accomplishments of a year there is temptation, as President of an organization, to think primarily in terms of personal satisfactions and pleasures derived from the experience. One cannot work closely with the members of a great Association such as ours without gaining more than she can possibly give. Whatever growth there has been during the year 1945–46 in the American Dietetic Association has been due to the efficient management and the untiring efforts of the Executive Board, the executive staff, and each participating member. For the privilege of having had the experience of close association with our members and for being able to serve the American Dietetic Association, I am deeply grateful.

There is good reason, too, to thank the founders of our organization and the presidents who have preceded me for creating and contributing to the solid structure on which we have continued our building. They gave us a "Design for Progress" which directs our efforts today. Through the years, this design has developed into a pattern of membership which must far exceed the expectations of those 58 original designers of our Association. Ever since 1917, when this design was originated and given definite form, it has been both developed and colored by the professional mindedness of our members, and through its expression in many community, state, and national services it reaches a total accomplishment of which we may well be proud.

The background of our design is, of course, our membership and the standards on which this membership is based. From the 58 charter members we have grown in 29 years to a group now numbering 7500. In 1939 when we were 22 years of age and numbered just 4000 members, our President, Anna Tracy, expressed the Association policy toward membership thus (1):

"Our membership roster has now reached the 4000 mark. This evidence of Association growth is most satisfactory, especially so when we remember that from the beginning of our organization we have had membership requirements and that these requirements have been raised from time to time. It is interesting to think of the significance of our membership standards. Lacking a legally accepted definition of the term 'dietitian,' lacking state registration of dietitians, lacking any type of examining board procedure to give status to those practicing in the field of dietetics, our membership qualifications begin to stand out as being descriptive of the term 'fully qualified dietitian' in a most significant and authoritative manner. We cannot take lightly our responsibility as a standard-setting group. Our membership standards will always remain at a high level. Qualitative as well as quantitative criteria must be used as measuring devices for membership. But height must not be confused with narrowness, and we must be conscious always of the many fields of performance in which the science of nutrition can be applied to the betterment of mankind."

Such a policy still holds. Although requirements for membership have been raised and dues have been increased, we have continued to add to our membership at the rate of about 10 per cent each year. A national organization is only as strong as its affiliated groups, and acting on that premise the constitution was revised in 1944 to bring potential strength in membership to the State Associations by providing that each member of the American Dietetic Association automatically becomes a member of the affiliated State Association of her residence. By turning over 25 per cent of each member's dues to the State Association, greater financial security was also assured to it and hence the opportunity for more service projects on the state level.

The fine professional spirit of the members of our Association is worthy of comment. Cognizance of it will long rate high among the values which have come to me as one of our officers. During the past two years I have had personal contacts with members in

[1] President's address. Read before the House of Delegates, American Dietetic Association, Cincinnati, October 14, 1946.

15 states. Many of these visits were with the newest and smallest members of our professional family, and from these groups come my greatest hope for the future of our Association. If 12 members, six of them in uniform, will come together for a meeting from all parts of a large but sparsely settled state, or if dietitians will drive 300 miles over mountain roads to meet with 20 other members, who can predict how far-reaching the influence of the individual group or the national Association of which they are a part may be? In this regard, I recall the state nutritionist in one of the smallest but most enthusiastic state affiliated groups who was familiar with the status of the school lunch in every school district in the state, for she herself had organized many of the programs and had visited all of them. Due to her enthusiasm, the other members of the state organization became interested and each accepted the school lunch in her district as her responsibility. What better coverage could we hope for in a community and state nutrition program?

Each member of the American Dietetic Association is charged with the responsibility of providing better nutrition for the peoples of our country, and in many cases, the world. We should have a sense of deep pride and awareness of this responsibility. As a result of my visits with members in State Associations, it is my belief that we are well on our way toward such an awareness.

At the close of this, another year of work—and a highly important year—we may well ask ourselves what has been added to our "Design of Progress" during the year 1945–46. Perhaps we should look at the program outlined by the Executive Boards of 1944–45 and 1945–46, which they hoped would meet the expanding needs of our Association, in order to determine how much of that which was planned has been accomplished. This program was presented by the President-Elect in 1945 before the Meeting of the House of Delegates. It included:

(a) Strengthening further the approved course program;
(b) Augmenting the placement service;
(c) Aiding in the redeployment of dietitians attached to the armed services as they return to civilian life;
(d) Providing consultation service and building an adequate library;
(e) Developing public relations activities;
(f) Expanding the Journal staff to include an associate editor;
(g) Publishing new and revised books and other material;
(h) Establishing policies for an American Dietetic Association Loan Fund for Graduate Study.

Who can evaluate the far-reaching effects that were brought about as a result of the training received by approximately 800 students graduated from the courses approved by the American Dietetic Association in 1945–46? In a few cases during the past year the qualifications of the staff of the approved courses, the quality of the class work offered, or the facilities of the institution fell below a well defined standard and appropriate action was taken.

As an Association we have been criticized for being too conservative and over-exacting in our standards for students who are to enter the approved courses and for the personnel and conduct of the courses themselves. To this there is only one answer. The profession of dietetics will never rise above the standards established and maintained by dietitians. Their educational background and training must be the best that can be provided. If our standards for approved courses are sound, our decisions regarding the manner in which they are upheld must be just and sound. The year spent as a student dietitian is one of the most significant ones in a dietitian's entire educational experience because for the first time she is experiencing on-the-job training. Her ability to accept that which is offered must be of undisputable quality. Also, the courses must afford real on-the-job training of outstanding professional worth.

The two-day conference of course directors held as a part of this 29th Annual Meeting is an important step in an endeavor to strengthen the approved courses and to assure that no marked disparity exists in the educational opportunities afforded by approved courses. A summary of the accomplishments of this meeting will appear elsewhere in the Proceedings. Important to note in the report of approved courses is the establishment of minimum standards for class instruction for all courses. This is expected to contribute to maintaining the first year work at graduate level.

The discernment of the members of the Executive Board and the Finance Committee in recommending the expansion of the Placement Bureau by the addition of personnel has been demonstrated in the work of this important department during the past year. Much work has been done to assist in the redeployment of dietitians returning to civilian life. The assistance has been given not only through correspondence but also by numerous personal interviews. On June 1, Virginia Harger became Assistant to the Executive Secretary. She came directly from service with the Medical Department of the Army, having had experience in both hospital and college food service. Until Miss Harger could assume her duties in the Association office, LeVelle Wood assisted for three months with the heavy responsibilities in the Placement Bureau.

The need for an adequate library at Association Headquarters, which could be used by resident staff and loaned on request, has long been recognized as one of the Association's most vital needs. However, the building of a library requires money for

purchase and space for storage. Neither has been available until recently when the Executive Board voted to spend a modest sum for the beginning of what is hoped will be a library of which we eventually may be proud. Space for a library in the new quarters at 620 North Michigan Avenue, Chicago, although limited, will be sufficient to house the accumulating volumes until such time as our JOURNAL office and library may be housed together. The housing together of the JOURNAL and the library may be a dream which will be long in the realization, but the work of these two activities is so closely allied that it is anticipated that future housing plans will place them together. It is our hope that individual members or groups may become interested in helping to build a library through personal contributions of professional books and ear-marked funds.

A consultation service was indicated in our expansion plan. We are at this time most happy to announce the appointment of Bertha Biltz as Administrative Adviser. As a member of the headquarters' staff, Miss Biltz' services will be available to all members, and we are sure they will be proved invaluable. Some of her time will be spent in the field so that she may know the problems of the members and be able to help individuals and groups in finding desirable solutions. With Miss Biltz' sound training in dietetics and wide and successful experience as an administrative hospital dietitian, joined with her enthusiasm for the task ahead, it is the belief of the Executive Board that her appointment will be of far-reaching service to the Association and to each of its members. Miss Biltz seeks to be informed by each member concerning the ways in which she may help most.

A program for developing public relations activities is yet in the embryonic state. The need for such a program has long been recognized. During the past year considerable "spade work" has been done in preparation for the laying of its foundation. At this point the present administration is turning over the building of an efficient public relations program to the succeeding one.

Perhaps each President has one major problem which makes all other responsibilities seem mere chores. For me this problem was one of staff replacement in a key position. It appeared early in the fiscal year when our Editor, Mary Pascoe Huddleson, submitted her resignation to the Executive Board. It had been the plan of the Executive Board to obtain, when possible, an Associate Editor who could relieve Mrs. Huddleson of her all too many responsibilities and learn the routines of the job. I will leave to your imagination the feelings that each member of the Executive Board expressed when the President realized that the vacancy to be filled was not that of an assistant but of an immediate successor to our editor for 19 years. The editorial in the June JOURNAL has well expressed the attitude of our membership and the many friends of our JOURNAL. A member of the Executive Board so aptly has said, "Perhaps no other member has given so much of herself and contributed so greatly to the growth of our Association as has Mrs. Huddleson." Those of us who have had the privilege of serving with her agree.

The bright side of this story came when Mrs. Dorothea F. Turner, the Board's first choice as Mrs. Huddleson's successor, accepted the appointment. The issues of the JOURNAL for which our new Editor has been responsible are evidence indeed of her ability and her fitness for this post. In the reorganization of the editorial staff a Managing Editor in place of the Associate Editor that previously had been planned was added. For this position we were fortunate to obtain the services of Harriet E. Sankey, who came to her new position with considerable background of experience in the editorial field. The changing of editors necessitated providing new editorial offices, and in May the Chicago headquarters began to share their already overcrowded offices with the new JOURNAL personnel and equipment. Of course, some of the JOURNAL activities have long been carried on in the headquarters office. Mildred L. Egeberg continues to assume the responsibilities of Advertising Manager for the JOURNAL along with the duties of Office Manager.

To make the editorial office a permanent part of the Executive headquarters is only another bit of stitchery in our "Design for Progress." More office room is needed as our central plan grows, but we have high hopes that with the solving of the national housing problem our Association will be one of the many for which adequate space will be forthcoming.

New publications are usually the outgrowth of section projects, and within the past year three new publications have found a receptive market not only among dietitians but also in allied fields. The revisions of *Allergy Recipes*, the *Nutrition Bibliography*, and the new *Handbook of Diet Therapy* make a list of which we as an Association may well be proud. *Manual for Teaching Nutrition and Dietetics to Student Nurses* is now in the hands of the publisher, although no definite date has been given as to its availability. In a general mailing to all Association members in May, a list of publications now available from the Chicago office was enclosed. This list is brought up-to-date quarterly. The sale of publications and JOURNAL reprints totaled approximately $3000 during the past year. The value of this statement, not only to our Association, but also to the general advancement of nutrition and its allied subjects is significant. The "descriptive booklet" which reached you in that same general mailing has been received with considerable enthusiasm and appreciation. To our Executive Secretary goes the

credit for this information and attractive "get acquainted" brochure.

The program of work for our Association is outlined in the projects of the four sections: Community Nutrition, Food Administration, Diet Therapy, and Professional Education. After you have heard the reports of the Section Chairmen, you will realize the magnitude of the tasks they assumed and their significant accomplishments. When the outlines for section projects come to our desks shall we not remember that these projects offer channels through which we as individuals can contribute to the "Design for Progress" of our Association? Only those who feel no responsibility toward their professional organization can fail to be inspired to select a project for personal participation and carry it through to the fullest extent of her ability and her resources. The state programs are quite as important as the national ones. In some situations they offer opportunity of great value to the individual and the local group.

It matters not where we make our contribution. Our officers, our section chairmen, and members of our standing committees give untold numbers of hours to the fashioning of that part of our "Design for Progress" which relates to their specific fields. We, as members, have opportunity to help by weaving a new thread into the pattern. This may be done by active participation in the work of the present, by suggestions for the plans of tomorrow, or by appreciating and using the information that has been assembled and made available by others. We have only to look at the list of reprints of JOURNAL articles, of bulletins and books to be appreciative of the wealth of material which those who have extended the necessary effort, time, and money have put at our disposal. The program of work of our Association is your program of work. This we must never forget.

Legislatively we have been more active as an organization this year than ever before in the history of our Association. Much of this has been due to the tireless work of our Legislative Committee in Washington. The Chairman, as Secretary of the Women's Joint Congressional Committee, has been able to keep the membership informed of legislative issues of particular interest to the American Dietetic Association. Other members were active, too, especially in the sections of the Veterans' Bill concerned with the status of the dietitian in the Veterans Administration. Dr. Paul Hawley, Chief of Medical Staff, paid tribute to dietitians in Veterans Administration through the following letter written to the President:

"You will be interested to know that the new standards under which dietitians will be recruited for the future needs of the Veterans Administration have been approved, and a copy is attached for your reference.

"I wish to thank you and the other members of the Executive Board of the American Dietetic Association for your kind assistance in establishing these standards under which dietitians may be secured for the future needs of this organization.

"Your continued interest and help in locating qualified dietitians for Veterans Administration Hospitals will be greatly appreciated."

The School Lunch Bill has finally become a law with Title II deleted. This was not as we had hoped it might be, but certainly two important things were gained; a permanent school lunch program has been established through legislation, and the U. S. Department of Agriculture must make all contracts through the State Departments of Education. It is now the responsibility of everyone interested in better food for the school child to do her part in making the School Lunch Bill operate in the best possible way under the new provisions.

Additional legislation of interest to this group—H. R. 7168 and S. 2481—bills "To Establish the Army Nurse Corps, the Dietitian Corps, the Physical Therapist Corps, and the Occupational Therapist Corps in the Medical Department of the Regular Army and in the Officers' Reserve Corps and for Other Purposes" were introduced in the House and Senate the last of July. This was too late for action in the summer session. The provisions of particular interest to American Dietetic Association members are the establishment of a separate Dietitian Corps and the rank of the Director, which is that of Lt. Colonel.

It is the wish of the members of American Dietetic Association that the grade of the Director of the Dietetic Corps be raised to the rank of Colonel. It will be necessary to obtain "friends" for this move, particularly with the Military Affairs Committee. We must have sympathetic and informed committee members to support our request.

Now, as in the past, the leadership of our Association in the years ahead will be dependent upon the native ability, the education, and the professional training and aptitude of our members. The future dietitians will find a new world of opportunities. There will be different demands on her training than have been made on those who have preceded her. She will not have quite such a hard fight for "a place in the sun," as the profession of dietetics is now established. Her problems may not be less than ours, but they will be different, for each generation has its own problems and opportunities. The most we can hope to do is to give her an adequate foundation including knowledge and understanding, skills and abilities, attitudes, and appreciation. The dietitian of tomorrow will not be just a citizen of America, but a member of a world society. As veteran dietitians of the second World War, many of our members are already well on the road toward this goal.

The vision of past and present Executive Boards, individual members, and friends of dietitians has made it possible for us to set up a loan fund for graduate study for the use of young women members of our Association who wish to pursue graduate study in any area of dietetics or nutrition, administrative or therapeutic. The plan as accepted by the Executive Board will be presented at this meeting by Dr. Helen Mitchell, chairman of the Loan Fund Committee.

It is our hope, too, that professional education for dietitians both at undergraduate and graduate level will soon include courses in human relationships and citizenship, for only through an understanding of the basic needs and urges of all peoples and more mutual understanding and appreciation can we hope for lasting peace and goodwill among all the nations.

There is much to be done to make our Association mean all that we want it to mean on a national, state, and personal level. Our President-Elect will outline for you at the business meeting her pattern for an evolving "Design of Progress" as she sees it unfolding for the months ahead. My hope is that whatever her plan may be, every member will be a participating member and that your next President will have the same quality of support that was given me in the year just ending.

REFERENCE

(1) TRACY, ANNA M.: President's address. J. Am. Dietet. A. 15: 725, 1939.

Kidney Controls Excretion of Amino Acids

Experiments indicating that, regardless of the body's need for nitrogen, the kidney threshold controls excretion of amino acids when they are injected above a certain level were reported at the American Chemical Society's fall meeting in Chicago by Drs. Elsa C. Proehl and Douglas V. Frost of the Nutrition Research Division of Abbott Laboratories, North Chicago, Illinois.

In their report these workers stated that it seems likely that the more rapid the injection rate of hydrolysates, above a certain physiological level, the more rapid the excretion of amino acids will be, and thus, the greater the wastage. It would appear that the body's need for nitrogen or the rate of utilization of injected material does not influence the rate of excretion of amino acids, and that the excretion is subject almost purely to control by the kidney threshold.

A series of experiments showed that partial acid hydrolysates of proteins, on injection in dogs, are as well utilized as complete hydrolysates to which tryptophane was added. Both normal and hypoproteinemic dogs were used. Only about one third of the total amino acids in partial acid hydrolysates were in free form.

The investigation was designed to show the rate of amino acid excretion with different rates of injection, and also to make a study of peptide excretion. It was found that dogs excrete both free and bound amino acid nitrogen on nonprotein diets, as well as on diets of average protein content. When partial acid hydrolysates of protein were injected, the excretion of peptides increased in proportion to the excretion of free amino acids.

Injections were made at two different rates, 1 and 1.5 mg. nitrogen per kg. body weight per minute. The rate of excretion of both free amino acids and peptides was highest at the more rapid injection rate. At three different levels of injection—100, 400, and 600 mg. per kg. per day—it was found that the percentage of total nitrogen excreted as free and bound amino acid nitrogen and peptide nitrogen was relatively constant. This was true regardless of the rate of injection. The constancy of amino acid nitrogen excretion expressed as percentage of total nitrogen excretion, indicates that both amino acids and peptides are subject to physiological control by a kidney threshold and are not unlike other normal excretion products in this regard.

The rate at which minimum loss of amino acid nitrogen will occur following injection has not been determined, but it is probably less than 1 mg. nitrogen per kg. per minute. The generally recommended rate of injection is 1 liter of 5 per cent hydrolysate in a period of 3 hr. This conforms to a rate of about .6 mg. nitrogen per kg. per min. in a 70 kg. man. At the latter rate, it is likely that undue loss of amino acid nitrogen through the kidney will occur.

The observation was also made that when dogs were hypoproteinemic they excreted amino acid nitrogen just as rapidly as when the hypoproteinemia had been corrected. Also, there did not appear to be a difference in rate of excretion for preparations of different biological value. Thus it would appear that the body's need for nitrogen or the rate of utilization of injected material do not influence the rate of excretion of amino acids and that the excretion is subject almost purely to control by the kidney threshold.

Human Problems of Administration[1]

JOHN DESMOND GLOVER

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DIETITIANS are very much concerned with the problems arising from the direction of employees' activities—handling the people who must translate ideas and plans into action. By working through these people, the dietitian is serving the function for which her organization exists.

The problems arising from dealing with human beings are often intimate and personal, and frequently more difficult than technical problems of administration. These are the problems of eliciting the cooperation of your subordinates, of getting along amicably and effectively with your superiors, and of integrating your own operations with those of other departments.

To achieve these ends successfully, a state of affairs which may be called "Equilibrium in Organization" must be established. When this state of affairs exists you will find an organization where all of the people—the workers, the supervisors, and indeed the chief—contribute their *intelligent* and *wholehearted* cooperation toward achieving the collective goal. Another symptom of this condition is an absolute minimum of friction, discord, or disharmony between workers and supervisors, and among the administrators. Another indication is that all the people in the organization like their work and particularly like their co-workers. There is a minimum of personnel turnover. There is pride in the organization. The people like the way things are done, yet are quite willing to try new ways and derive satisfaction from experimenting with new methods. Absenteeism is low, and spoilage and sloppy workmanship are rarities rather than commonplaces. It is this happy state of affairs—and there are many more symptoms which could be listed—which will be discussed here.

This state of equilibrium is of utmost importance to an administrator; in fact, there may be nothing about the organization which is of greater importance. Without it, the latest techniques, the most tried and tested formulas, the most up-to-date equipment, even the most zealous driving energy or good intent will avail nothing. Without at least some semblance of this equilibrium there cannot be even an organization. The more nearly the organization approaches this state of balance, the more likely it is to succeed in carrying out the purposes for which it was established; the more likely will be the chance of success in the application of new techniques; and the more probable it will be that the organization will be efficient. This state of balance, harmony, equilibrium, must be striven for, planned for, worked for by the administrator above all other objectives, for without it nothing can be achieved. Without it, indeed, the organization will deteriorate, disintegrate, and eventually die.

Before the nature of this equilibrium and the forces which produce it can be fully understood, certain other important ideas concerning organizations must be considered. Most people are so preoccupied with the daily work and routine—their own and those of others who work with them—they forget that the group is, in fact, a miniature community, a society, a social group. In many respects, working organizations resemble the tribes and clans of primitive people and the society in which we live. There are customs and habits—the *mores* of the society—which have never been written down. In many industries it is unheard of for women to perform certain tasks or to hold certain positions. There are frequently written rules to that effect, but more often it is just because of custom. In some industries the pay scale is fixed by custom, not by written rule or by explicit agreement. The division of labor frequently is according to custom—people who do certain kinds of operations simply don't do other kinds of work—and that custom has been included in many union contracts in recent years. This same custom may be seen in almost every household. Certain work is "woman's work" and other work is "man's work."

Then, too, relationships between different types of people within an organization are frequently maintained because of custom. Some jobs carry more prestige than others, not because anyone has ever

[1] Presented at the New England Conference on Organization and Management, Boston, June 6, 1946.

said it must be so, but just because it is the way people *feel*. The clergyman occupies a higher social status than a machinist, even though the machinist may make more money. A dietitian's job, for example, carries with it more prestige socially than that of a chorus girl. And so it is inside an organization. A chef ranks much higher on the social scale in the kitchen than a dishwasher. Thus the miniature society has customs and social status—two very important sets of facts in any society.

What other attributes of a human society can be observed in the working organization? There is a sense of belonging, a feeling of participation. . Just as the primitive tribesman feels that he belongs to his tribe, so each worker should feel he belongs to his organization. In fact, most people belong to a number of tribes—the organization in which a person works, his church, clubs, and associations. Toward each of these organizations he has, or is seeking, the comfortable feeling of belonging.

What is this feeling of belonging? It is probably based on having a common attitude and belief about things. A feeling of familiarity contributes to the feeling of belonging. Everyone has had the feeling of "not belonging" on going to work in a new organization. The new employee feels that it is a strange organization made up of strangers who even speak a different language; though he is on the payroll, he hasn't yet developed the feeling of "belonging." Later as he comes to know the people, their ways, and some of their slang, he feels that he "belongs."

Another factor in knitting a group of people together is that they face a common problem. It may be the problem of serving a large number of appetizing nourishing meals economically and speedily. This common problem unifies and integrates the group. In the solution of the common problem, each member of the group has his own function, and in a harmonious organization, each person feels that his job is indispensable to the success and welfare of the group.

The working organization also has its more formal aspects, its written rules and regulations which are comparable to the written as opposed to the unwritten law of the tribe or nation. However, even though a regulation has been reduced to words on paper, that does not necessarily mean it is more powerful or more scrupulously observed. Great Britain has no written constitution, yet everyone is in substantial agreement as to what it is, and Parliament rarely violates it. So it is in some working organizations; the unwritten law may be even stronger than the written. In one war plant, for example, there were no time clocks for the employees, but the worker who was so inadvertent as to be late drew down upon himself catcalls and jeers from his fellows; and it was generally agreed that the workers in this plant were much more prompt than those in other plants where elaborate regulations and procedures had been designed to prevent tardiness.

In addition to formal written rules, written statements are frequently made which stipulate the relationships between the various individuals and jobs. This is done in the Army, Navy, and Civil Service. The Army has recorded for all to read, exactly how much higher a general ranks than a major and what that means; yet just because the relative positions of the general and the major have been reduced to writing, it probably would not be correct to say that their relationship is any more definite than that between the counterman and the bus boy.

Many organizations describe the functions of the various individuals in detail in a manual where the responsibilities and limits of authority of the job are listed. In fact, in some union agreements there are detailed job specifications. Yet in many organizations there is no such manual. People "just know" what their jobs are.

An administrator must be constantly aware, and bear in mind as he works with his group day in and day out, that his organization is a social group with its own customs, its own traditions of social status. This is one of the key concepts of organization. He must be sensitive to the group feelings of solidarity which hold his group together. He must realize that, whatever he says, certain informal tribal chieftains will emerge, claim, and receive the allegiance of the members of the group.

Leaders of a group are not necessarily the legally appointed or elected leaders, but may be, and frequently are individuals to whom the group takes its problems, to whom it looks for advice or inspiration, or who is a veritable repository of information. Some of these people have no explicitly recognized position in the organization, and they frequently take the initiative and propose ideas which are accepted by the group. Yet the administrator must accept their position.

He must also recognize—whether or not there are regulations, memoranda, or rules concerning job status, the relationships between jobs, or the functions of the various jobs—that the society of which he is the formal or titular head will make its own provisions, and that often the provisions which his group develops by itself may be more binding and more real than any regulation or rule he may promulgate.

Another major fact which an administrator must always take into account is that human beings are motivated by a number of complex, subtle, elusive, but withal very powerful forces. It is naive, incorrect, and very dangerous for an administrator to assume that human beings are motivated by economic considerations alone. "Man does not live by bread alone."

What motivates employees? What impels them to work in one organization rather than another?

Is it munificent salaries and wages? Or do they stay in spite of low wages? What forces impel them to action or drive them to assume certain attitudes?

There is, first, the economic motivation about which there has been much written. This is undoubtedly an important driving force. Practically everyone has a strong acquisitve instinct and is interested in achieving a certain minimum of material wealth.

The economic motive does exist, but it exists in combination with many other factors. Furthermore, there is considerable doubt as to whether it is as powerful as some of the other motivations.

Another instinct, related to some extent to the drive for economic well-being, is the desire for security. This is not concerned exclusively with economic security. People fear loss of income because loss of social position and prestige may also result. The man who has painfully advanced step by step from the lowest unskilled job in a machine shop to the point where he has become expert in the operation of certain machine tools, has improved his social status as well as his economic condition as he has moved up the ladder. He is proud of his success, but there is always the fear, too, that he might lose this job and might be forced to return to unskilled laboring work, with the consequent loss of "face," prestige, and pride. Transfers within an organization with no loss of income to the individual—indeed, even with an increase—may sometimes be a bad move if the person feels he has lost caste. Every job carries with it a definite social status, and the relative social status of a job does not necessarily correspond to the amount of the wage. Skilled operators in a factory earn more than white collar workers in the office, but it is almost universally recognized, particularly by the office workers themselves, that the social status of office workers is higher in some mysterious way than that of factory help.

Another driving force is the desire to feel important. A person wants to feel that without him, the organization would not be able to function nearly so well. Unfortunately for millions, this desire has been so dulled by frustration that it has been almost forgotten. Yet it is latent, waiting to be exploited. Closely related to this motivation is the desire to participate in decisions. Perhaps it is a desire for self-expression, perhaps it is a desire related to the drive toward social status, the theory being that those who make decisions have a higher social status than people who take orders. That drive, too, has been dulled by long years of taking orders without ever being called upon to participate in policy-making. This drive exists in workers and supervisors as well as administrators.

Then there is the wish to work with congenial people, to have a job which ties in with the work of others in an important way. This completes the circle back to the desire for social status, the urge to feel important, the wish to participate in making decisions. Thus the complexity of motivations and and their inter-relationship may be seen.

An administrator may say, "It is all well and good to talk about such motivation in well-educated people, in people who have responsible jobs, but do illiterate, uneducated people, or people who have routine jobs really care about such things? All they want is more money." Of course, these driving forces are sometimes obscure. People don't wear their aspirations and desires on their sleeves, and some of these motives have become dulled, perhaps, but they are still there.

Employees' work reflects their satisfaction of these motives or their lack of satisfaction. The uneasy, the insecure, the frustrated do not do good work. The work may be done after a fashion, but there is spoilage, there is lost time, there are mistakes. The behavior of people reflects their reactions to their satisfactions or dissatisfactions.

What do the motivations mean to the administrator, the person who is concerned with developing a group of people who work harmoniously, intelligently, and wholeheartedly toward an objective such as preparing a large number of nutritious, well-balanced, low cost meals? How can you best appeal to people?

First, know your people—not just people in general, but the specific people—in order to know what appeals, what compulsions will draw forth the type of behavior you want. You should know just as much about them—their home life, their family—as possible before determining what incentives will produce the kind of response you desire. Know about their jobs; about the social status of their jobs in the organization; about the attitude of workers toward their jobs and the jobs of others; their attitudes toward the rest of the group and especially toward their supervisors; and you should also know the attitude of the supervisors to the workers.

Be sure that workers are in a proper frame of mind to respond, for if you aren't certain, a technique may boomerang. A company may offer its people things they very much want, but it must first establish in its workers the proper frame of mind, else they may distrust your overtures. While there is no simple formula which will give the right answer every time, by thinking about it a workable answer will come to you.

There is no formula for appealing to the motivating drives in people, for every human being is an individual with his or her own peculiarities. Maybe a friendly word will work with one worker, maybe a bit of praise, while another will respond if offered a little more responsibility. A scowl or a frown, or perhaps some mild type of reproval may work best with another. Perhaps another is just aching to receive an invitation to the boss' home for dinner.

There are so many different things that different individuals want!

Don't be so unimaginative or so unaware of the complexity of human nature as to confine yourself to those old overworked "reliables"—more money or a scorching rebuke or reprimand. Do you have an employee who feels insecure in her mastery in her field? If so, will she do better if you raise her salary? If you scold her? Probably not. Do you have someone who feels insecure in her social status in the organization and whose work suffers accordingly? Can you improve her work by more money or even by a friendly smile? It seems doubtful. Words, smiles, money will not solve that girl's problems.

To some extent, at least, it may be possible even to modify the motivations of your people. However, that is even more complex than discovering stimuli to which people will respond. Furthermore, people generally have fairly definite personalities, ideas, and ideals, which are not easy to change. In any event, to change them requires a long time, very powerful forces, and profound knowledge of the human animal. The administrator would do well to take people pretty much as he finds them and leave the job of changing people to the psychiatrists.

Another important matter is the problem of "upward communication" in organizations. By this is meant the process of finding out what goes on in an organization, what people are thinking, what their attitudes are. Discovering the technical facts of an organization is not too difficult. There are cost reports, statistics of inventories, data on waste and man-hours spent on various jobs. All sorts of meters, thermometers, gauges, and other apparatus indicate how equipment is operating. But how can workers' attitudes be determined? How, indeed, can the administrator learn what the social structure of his organization is and whether it is subject to stress and change? That is much more difficult. Even close observation can be misleading. If a thermometer shows 400°, we know what it means. But when an employee complains about the lighting or his hours, is he really complaining about his supervisor, about his fellow workers, or about the fact that his social position has been undermined because his supervisor has asked him to do something which he thinks is below his status?

We can never be sure that the worker, or the supervisor, is *really* complaining about what he says is the trouble, or whether it may not be something quite different—something which he may not even recognize himself. For example, a worker recently complained to his foreman that the chalk in the air in the factory hurt his nose. The foreman replied that he must be mistaken, and said that the chalk couldn't possibly hurt his nose as it had been thoroughly and scientifically tested, and told him to go back to work. Now what *was* the man complaining about? The foreman never learned because the man quit. Instead of sending the man away with a perfectly logical answer, the foreman should have listened and encouraged him to talk. With a little patience he might have found out something which he should have known about his workers. Listen and observe, and constantly be on the alert to see whether things are *really* necessarily what they appear to be.

It is difficult enough to find out what is going on in an organization, to obtain information from the workers' or supervisors' level, without putting obstacles in the way. And sometimes we do, unintentially, put blocks in the path of the easy transmission of the very information needed. The administrator may, for example, be so curt, businesslike, abrupt, critical, that he freezes his people so that they simply cannot bring themselves to talk frankly.

Just as it is difficult to find out what employees think and feel, what they want and expect, so it is sometimes difficult for an administrator to transmit her attitudes and intentions to her workers. An administrator can never take it for granted that her intentions will be transmitted down through the organization without distortion. This problem of getting complete and undistorted communication up and down an organization—especially when the information itself relates to the human or social element—is most difficult. Yet it is indispensable to the maintenance of the balance, the harmony, the equilibrium.

How do these elements of human motivation affect the equilibrium of an organization? First, the incentives and inducements which an administrator uses must meet the desires and requirements—the motivations—of her people as individuals. Careful consideration should be given to the assignment of tasks so that the social or personal integrity of employees is not undermined. Still another factor which holds an organization together in a state of equilibrium is the binding tie of a common problem and the feeling on the part of each person that she plays an important part in helping the organization achieve its objectives. A desirable equilibrium may also be promoted by making sure that the written laws, rules and regulations, the formal division of labor, manuals, and organization charts correspond to the unwritten laws and customs of the "tribe." Too rapid technological change which upsets the social arrangements, the relationships, and customs should be avoided. The equilibrium is best in those organizations where the leadership and management is fairly stable, where there are not always new faces among the supervisors. Equilibrium is more likely to be satisfactory where policies do not change too frequently. It is likely to be good where the attitude of the administrator is even, unperturbed, calm, and most of all *sympathetic*.

To state these important points another way, one of the factors which has done much to upset equilibrium in organizations in the United States in the last two generations is rapid technological change with no particular attention given to softening the impact on the people. It has caused great labor unrest, created a feeling of insecurity, and has led directly to many restrictive practices on the part of labor unions. One interesting example of the impact of technological change occurred in a printing plant which installed a new printing press of the latest design which was capable of producing many more copies per hour than the older presses combined. The new press, however, caused many of the men's jobs to be changed; it did not result in lower earnings for any of them, but it upset their routines and substituted mechanical devices for operations which previously had called for human skill. In any event the company never obtained maximum production from the new press. As a matter of fact, the company eventually went bankrupt because it had made the heavy investment in the new press and could not raise production to a level where the additional cost could be carried.

And so it is with all organizations. The administrator must always give her employees a common objective worth working for and a feeling of belonging to something important in which each individual has an important part, and in which each participates to the utmost of his capabilities.

It is not enough to be technically competent. There are too many technically competent people who are worthless as administrators, because they have never studied the human animal—the most important, the most difficult and most unpredictable ingredient with which they will ever be called upon to deal. Dietitians and food managers should take courses to study some of these things, and learn the principles of human motivations, as well as food preparation and the care and maintenance of equipment. They should develop the beginnings of skill in devising incentives and inducements which will elicit the intelligent and wholehearted cooperation of their workers. They must be completely familiar with the difficulties of obtaining full and undistorted communication of ideas, plans, and attitudes up and down their organization structure. They must understand that perfect formulas, perfect plans, and perfect equipment in the hands of dissatisfied, disappointed, frustrated people, can lead only to disappointing results if not to outright failure.

ELECTRONIC COOKING

Long experience with commercial kitchens and chefs dictates against over-optimistic offerings of complicated electronic equipment. High frequency has little to offer the commercial cook in the processing of raw food. The few advantages that it might have are so far outweighed by the cost, the complications, and the questionable product, that this method of cooking will not be acceptable.

The most interesting demonstration of high-frequency heating is in the thawing of frozen raw food and the heating to serving temperature of frozen cooked food. We must give these two processes some thought. Small blocks of frozen raw foods may be thawed in very short periods of time by placing them in hot water, a low-temperature oven, or in a gently heated pan. The entire mass of food is thawed quickly without the outer portions of the mass being damaged. However, large blocks of frozen raw foods often require so much time to thaw that it is a nuisance and an expense. In establishments where space and time are valued highly, high frequency may offer appreciable savings. Each job will need to be checked from a technical viewpoint and the cost of equipment, operation, and maintenance compared to the savings offered.

The thawing of frozen cooked foods has the most spectacular results. The food has been cooked, frozen, and reheated in a high-frequency field. With many foods it is impossible to tell them from freshly cooked foods. In the case of mashed potatoes, the frozen and reheated product is better than the original, if it stands in a steam table for 20 or 30 min.

The possibilities of this process are evident. A chain of restaurants with a central commissary could purchase, prepare, cook, and freeze standardized menu items in large quantities. Delivery, storage, and carry-over problems would be solved. Seasonal items might justify preparation and storage, but whether this should be in the frozen raw state or frozen cooked condition would have to be studied.

However, there are difficulties. Food has properties known as dielectric constants and power factors. These constants vary widely between varieties of the same kind of food. This means that peas and potatoes, beans and bacon, all must be treated differently in the thawing. A compromise may be worked out whereby the performance is sufficiently uniform to permit the offering of a satisfactory machine, but until these factors have been investigated, the manufacturer will not ask you to invest in this type of equipment.—*J. C. Sharp: What's the Answer on Electronics? American Restaurant Magazine 30: (October) 92, 1946.*

Unionization—Help or Hindrance[1]

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ALTHOUGH encouragement of unionization and collective bargaining has been our national policy for a decade, both management and labor have some distance to go to make it operate constructively in many cases. However, more cooperative and constructive union-management relations exist than would be judged from reading the public press; nevertheless, our economic foundations are today shaken by industrial conflict. The nation is asking if organized groups of men can work together in cooperation rather than in strife.

Sound labor relations are founded on the mutual interest of labor and management in each other's problems and the mutual desire to cooperate in working out the solutions. Neither party can be held blameless for the too frequent lack of a cooperative attitude. Union leadership often seems shortsighted, and, occasionally, "punch drunk." Union members may have little understanding of the responsibilities they assume when they choose collective bargaining in place of individual dealing. Management is often adamant and obdurate—more interested in protecting "management prerogatives" than in bargaining collectively. Sometimes it is well meaning, but uninformed.

Yet in many instances where a serious effort has been made by both labor and management, a sound basis for collective bargaining has developed. What are those factors in management policy which have contributed to these successful relations? Although the need for constructive union leadership is obvious, it is evident that the latter can be influenced greatly by an informed management since the managers set company policies and make the basic decisions.

In companies where union relations have been developed into an instrument for the good of both employer and employees, collective bargaining is not considered an unnecessary nuisance to be handled by minor executives, nor are wages and working conditions considered as only an incident to the selling of goods. Such companies realize that to the workers, working conditions are primary considerations, and employee attitudes and problems are, therefore, given as much attention as profit and loss statements.

The responsibilities of the executive in any business require far more than a technical knowledge of the industry and of his particular plant. The major portion of any manager's time is devoted to engendering cooperation, struggling with problems of human relations, and developing the morale of his organization

Management's desires can, by law, have very little direct influence on employees' unionization activities. The National Labor Relations Act and similar statutes in three of the New England states preclude the employer from expressing himself on unions in any manner which might be construed as coercive language. As a result, the careful management people say nothing about labor unions to their employees because the line between language that appeals to reason and language that appeals to fear is too fine.

Where employees have selected a union, such companies do not feel that it is any reflection on management nor do they resent its arrival. Instead of considering it an unnecessary appendix, the constructive manager accepts the union as an integrated part of the company structure, and encourages its use as an instrument for better communications in both directions between supervision and worker. It can thus be developed into a useful force.

Industrial relations like other forms of human relations are an art rather than a science. Management can take the responsibility for setting the pattern of the relationship on a reasonable and friendly plane since it usually has the position of greater influence. Particularly while the relationship is new and the sales resistance is greatest can the management show that rigidity and resistance by either party is no sound basis for any wholesome relation.

Although the management and the union have essentially different approaches, it is important that each try to see the other's viewpoint. Management

[1] Presented at the New England Conference on Organization and Managment, Boston, June 7, 1946.

is primarily interested in the accomplishment of work, while the union is primarily interested in the workers. Although management sees its job as the determination of policies and decisions, a company which operates successfully with a union will give up any autocratic, dictatorial approach. It is essential that management recognize that the union's chief function is the transmission to the employer of the workers' reactions to labor policies and the forcing of needed changes in behalf of the workers. This is a difficult change for management to make, but it is realistic to accept it and put it into operation in a constructive way. Only by trying to put itself in the position of the union can management encourage the union to reciprocate. If, on the other hand, the union is unwilling to see company viewpoints, to attempt to understand operating problems, fiscal and other limitations, then there is trouble ahead.

Of course, management must manage, but organizations manage better when they develop successful ways of working with unions and awaken to the fact that dogmatic attitudes are not as successful as salesmanship in labor relations. The difference was humorously demonstrated by the conduct of two brothers who ran a restaurant and whose employees had joined the union. One of the partners refused to negotiate with the union, with the result that the employees picketed the main entrance. The other partner went outside, told the pickets to hold their heads high, to walk up and down as if they were self-respecting union men proud to carry their fight for their rights to the public. The first brother stood in the doorway watching and listening. When the other returned he asked, "What is the big idea, helping these revolutionists to fight us?" "Who is helping them?" was the reply. "I'm only showing them that I am still the boss." Realizing that they must all work together in the future, he recognized his responsibility to set a friendly tone in spite of temporary differences in the relationship.

Top management cannot establish sound industrial relations without the help of front line supervisors. The union stewards must work with the foreman more often than with the general manager. If their relations are not effective, cooperation which is so essential will be missing. The union can build on hate and friction, but understanding and cooperation are mutually more desirable. Therefore, union agents have a duty to educate the stewards, and top management has a duty to teach the supervisors how to accomplish day-to-day cooperation and a working rapport.

To establish this rapport, an understanding is needed of the kind of social organizations unions are, their mechanics and limitations. Since a union is a group of individuals, it often has political problems. The representatives, therefore, must consider not only their own personal judgment and values, but also the position of those whom they represent. To do less would be to fail to meet their responsibility. If, for instance, a wage structure is to be increased, management may find that large increases to certain low paid jobs and small increases to some high paid jobs would be an equitable adjustment. The union committee might be unable to differ with management on any reasonable basis, and still might be unable to agree because there would be no possibility of selling the proposal to their constituents. Or, after management has convinced them that there are no hidden resources from which to obtain a greater gross increase, they may still have great difficulty convincing the rank and file. Managements which are either unaware or unsympathetic to such problems growing out of the political nature of a union, are only making "their own row more difficult to hoe." It is not wise to say that it is the "union's headache and to blazes with it." A lack of sympathy on management's part may make the headache contagious.

It is also important to bear in mind constantly that collective bargaining is more than a means of setting wages and other general terms of employment annually. As a continuous administrative process, collective bargaining is a means of introducing civil rights into labor-management relations. In place of arbitrary decisions by management, working rules which are jointly determined become the order of the day. No longer can unilaterally determined policy changes be put into effect without regard to their impact on the rank and file. Orderly processes for joint determination put a new responsibility on management to work things out in advance with union representatives or face the alternative of constant suspicion and bad morale. The term "industrial democracy" is more than a shibboleth to the union, as many companies have discovered the hard and costly way. In grievance cases the union many times has no intrinsic objection to the condition about which they are complaining, but are really aggrieved at the fact that they have not been given a chance to advise the employees of a change in advance of a company modification.

It is important, too, to understand the union representatives if a workable relationship is to be established. In spite of the general acceptance of unions and union leaders today, both in law and in the social climate, there are still a few of the "old school" who think all union leaders plot their "battle tactics" in the back room of a bar, visualizing the whole world as the enemy. Fortunately, such an attitude is becoming rare, and even in such cases confidence can be built up so this situation is not full of pitfalls and traps.

Most union representatives, whether employee delegates or outside organization agents, are as interested in establishing good relations as management, but they very often find the going rough. In the first place, they are in the position of advocates

with the duty of representing their constituents. Even though the delegate or steward may have a mental reservation as to the real merit of the grievance, it is not his duty to be the judge. If he is plagued with a number of poor grievances he may be in no position to refuse to press them for he may be charged with having more interest in pleasing management than in representing the workers. If management becomes annoyed and irritated, not understanding that it is a process of communication in which the parties are both participating, then there is little opportunity to determine reasonably what merit, if any, there may be in the complaints.

A grievance may be real or it may be fancied, but in either case it is real in someone's mind. Whether the state of mind is based on fact or on imagination, it is equally important to attempt to find the root of the dissatisfaction and to correct the situation if possible. To dissipate an imagined grievance is better policy than to argue over who is wrong and who is right. In many negotiations the main effort of both parties is to insist that the other has violated the agreement. With no honest attempt to learn whether there is any basis for the other party's position, nothing constructive can be accomplished. Down that path lies industrial chaos rather than cooperation. A serious effort to understand the other fellow's reasoning rather than to argue in terms of legalistic rights will often correct a bargaining situation and make a friend out of an adversary.

The successful management remembers that the union delegate usually is doing a "labor of love" with his only reward in terms of service or self-expression. He usually has neither the authority nor the status of the management representatives with whom he deals. Even if he is a full-time union representative, he may have his own problems which are more pressing than the issues which he is presenting. It is hardly rational to blame him for doing his best to promote the interests of his fellow workers when that is the duty which they have elected him to perform.

In management's own interest it is advantageous to treat the union spokesmen with as much consideration as one's customers. It is as vital to the success of any enterprise that the workers be not disgruntled as it is that the patrons be satisfied. Moreover, it is usually true that hostility on the part of management elicits militancy on the part of the union and aggressiveness on the part of its spokesman. Considerable effort at understanding the union on the part of management should, therefore, be worth the trouble.

Finally, it must be realized that with this wholehearted acceptance of a union as a part of the complete organization, it will become a powerful as well as a useful instrument. It is simpler for management to deal with an established responsible group of union officers than with a large number of individuals, provided the leaders have prestige and the confidence of the workers. To accomplish this status, the union group cannot take orders from management. They consult with the employer, make recommendations, and reflect the workers' viewpoint. They carry back to their members the management viewpoint and decisions. They must help in the interpretation of the mutually agreed upon decisions and policies. To be effective in this two-way communication and to become a stabilizing rather than a disorganizing factor in an enterprise, the union organization must have influence with both the workers and with management. For this reason management has more to gain from a strong union which has the support of the employees and which really represents them than from an inactive and weak organization which has neither the respect of its members nor influence over them or management.

While a liberal cooperative attitude on the part of the employer offers no panacea for all of the problems involved in the industrial relations of a fast changing economic scene, it does seem to promise more of an avenue for stability and progress than any alternative approach. Resisting the development of a strong union or closing one's eyes to the needs which the workers seek to fill thereby is to invite more governmental paternalism and more restraint on economic conduct. Practitioners in the industrial relations field do not claim that every conflict of interests can be eliminated by a "Pollyanna" approach. They do feel, however, that the institution of collective bargaining can be used as a constructive force, from both the immediate and the broader point of view, if both the desire and the "know-how" exist to a sufficient degree.

PURINE CONTENT OF VITAMIN B COMPLEX

The content of purines in vitamin B-complex depends on the source and the degree of refinement of the end product. Beef liver contains 233 mg. of purine bodies per 100 mg. of liver. "Bemax" and "Embo" are reported to contain up to 75 mg. of purine bodies in 100 gm. Yeast, which is generally a good source of B-complex, is reported by Pattee to contain an insignificant amount of purine. Therefore, if liver is used as a source of B-complex, the end product may contain purine bodies, whereas if yeast is used, there is little or no purine. Vitamin B preparations, therefore, which contain considerable quantities of purines should not be given to a patient with gout.—*From Queries and Minor Notes, J. A. M. A., 132: (Sept. 14) 118, 1946.*

Points to Remember in Kitchen Planning[1]

OWEN WEBBER

President, Owen Webber, Inc.

PLANNING the dietary division of a new institution is ordinarily a relatively simple task, but today many authorities feel that we are at the crossroads of planning procedure because of several factors which have developed since the end of the war. Principally, these are:

(a) The early availability of precooked food and the usage of electronic devices for its reheating.
(b) The increasingly encumbered overhead, especially labor costs, and the necessity to circumvent issues which increase costs of hospital service to patients. This may result in a zoned pooling of hospital food needs and the establishment of amalgamated commissaries.
(c) The advisability of introducing certain equipment innovations which are either now or shortly will be available.

Most of these factors are still in the development stage. However, the use of precooked foods and electronic ovens will permit us to eventually bypass the main kitchen and disposable ware will allow us to either greatly reduce or eliminate dishwashing. Institutional planning done today, therefore, should provide for the disposition of floor areas which may be released at future dates as these anticipated changes are introduced and adopted.

This paper, however, will confine itself to a discussion of conventional planning principles, since the problem of planning for future changes in procedures is of such importance that it should be treated separately.

For years the cardinal points to be observed in procuring workable kitchen layouts have been discussed. In this paper the author will merely touch upon these in a general way:

(a) All persons connected with the operation of a hospital as heads of departments should be brought together at the time of the planning of the structure with open minds and a desire to help each other in their related performance.
(b) There should be no sacrifice of operating efficiency to gain a higher degree of architectural perfection for the structure proper.
(c) Above all, the dietitian should be assertive and given an opportunity to prove or disprove the suitability of the areas allotted to her for the planning of her various departments.
(d) In all building designs certain characteristics of the structure constitute kitchen-planning hindrances or obstacles. These include columns, elevator enclosures, stairwells, ventilation ducts, window sill heights, and shafts. The indiscriminate placing of these features seriously impedes the proper design of the dietary department.

Under committee planning as suggested, many of these structural encroachments can be placed where they would offer a minimum of hindrance to the workability of the various areas.

The departments of the dietary division need to be coordinated and tied in not only on each floor, but as the units relate to each other on the various floors throughout the building. As an example, on one plan as originally presented by the architect, the flow of raw materials from the back door would disrupt the entire kitchen. Furthermore, the back door as originally planned would require a building of greater depth than was given. It was, therefore, moved to the other side of the building, permitting the stores to arrive and be stored and to flow in a logical manner.

Various other things were done to the drawing in a minor way and as a result, this specific job will operate far more efficiently than if there had been no opportunity to study the floor areas before the drawings were too far along to permit changes.

PERFORMANCE TESTS

In locating and providing equipment of the proper type, capacity, and position, a study of the performance of each employee is a necessity. This should be done immediately after the blocking-out stage which is performed during the early days of planning the building.

[1] Presented before the New Jersey Dietetic Association, at East Orange, New Jersey, April 24, 1946.

One might call it a study of detailed conveniences, the envisioning of each worker in her place, and an imaginary performance of her duties to eliminate any unnecessary steps, any needless lifting, any unnecessary transportation, or any awkward movements in operating the equipment due to its position or placement. Literally scores of small performances must be pictured and rectified. Equipment can be a clumsy apparatus, not only from the standpoint of appearance, but from its degree of workability, and this has nothing to do with capacity or the materials used or its cost. It is purely a matter of studied performance relating to detailed design.

The blocking-out plan should then be enlarged, and each item of equipment positioned on the drawing to actual template dimensions to eliminate any unnecessary narrowing of traffic or work aisles.

Parallel with, or immediately subsequent to this large scale verification of equipment occupancy should come a study of actual stowage necessities. During the war the author helped with the design of food service departments on board ship. With space at a premium we drew up what was known as an "Allowance List," which set forth in detailed form the sizes, types, and quantity of every piece of china, glass, silver, small accessories, utensils, and so on. We theoretically stowed it away before the equipment was built, and by so doing, we were able to determine what fixtures should be left open and which would need to be enclosed.

The casual attitude of enclosing most or all of these kitchen and pantry units in the belief that such a stowage provision will undoubtedly prove useful is a wrong conception, and such fixtures are hard to keep in order and clean.

Simultaneously with the calculation of capacities, the surface area of work tops should be checked to allow for only areas actually needed. If all of these points are observed and enclosures and work tops kept to a logical minimum, money can then be afforded for a greater abundance of polished stainless steel, both for work tops and substructure sheathing, and the advantage of this non-corrosive metal is obvious. Furthermore, money could, under such circumstances, be diverted to providing insulation for as many of the heated fixtures as possible.

Just prior to the war, modern operation required the installation of metal gauze grease filters running down the entire length of the cooking equipment hoods. These are honeycomb section in shape and are easily removable for washing in the pot scullery. All exhaust is consequently screened and fire hazard averted.

With the trend leading more and more toward the provision of completely air-conditioned buildings, it is essential that all unnecessary heat dissipating factors in the kitchens and pantries be eliminated, or air-polluting escapements rectified. For the efficient operation of the hoods over the cooking apparatus proper, it is advisable wherever possible to provide tile faced wing walls at the ends of the batteries of apparatus from the floor on up to the lower edge of the hood. This at least prevents the deflection of heat and steam and fumes out into the kitchen. For the working frontages of the ranges, steamers, and kettles it is desirable to make the canopy with a substantial overhang. In other words, have the edge of the canopy set out at least $1\frac{1}{2}$ to 2 ft. beyond the front of the cooking apparatus.

The operation of ships in the Navy during the submarine activity of the enemy prompted the installation on board of garbage disposals, where the garbage originating from the various food preparation and service departments was ground up to a pulp and flushed overboard in a condition which would leave no trace of the ship's passage. These grinders were installed by the thousands and on the whole proved satisfactory.

Many of these units took the form of a large grinder with a capacity of almost a ton an hour in a simple garbage collecting room. This required the transportation from the various points of creation of the garbage, which in itself constituted an item of overhead under any circumstances. Some large vessels installed a smaller central garbage grinder and in addition, a plurality of individual garbage grinders scattered throughout the food preparation departments. For instance, one or two in the dishwashing pantry, one in the vegetable preparation department, one in the butcher shop, and one in the pot washing department. These individual units flushed away and discharged into the same waste line which serviced sinks or adjacent dishwasher.

It is desirable to install such disposals in new or planned buildings only where the quality of the piping is known, since any irregularity of the interior of the pipe at the joints might cause lodgment points where masses of this pulp could form a blockage. With proper planning, this can be avoided.

CONTRIBUTIONS TO GOOD OPERATION

Among the contributions to good operation in a kitchen are several features of design which are often slighted, such as measures taken to provide comfortable working conditions which carry beyond the stage of convenient, adequate equipment planning, and involve the elimination of unnecessary noise and heat. Peculiarly, these offenders travel together in kitchen equipment design.

Some measures primarily calculated to reduce noise production afford advantages apart from their value in the reduction of sound. The kitchen premises involve the usage of materials which are not acoustically cooperative. They reflect and augment mechanical clatter to formidable proportions, creating a factor which detracts from the efficient pursuit of work.

The absorption of sound requires the calculated provision of porous or cellular surface areas. Actually the very nature of the kitchen restricts this effective means of rectification. Therefore, the problem resolves itself into a study to determine ways and means of minimizing the cause of noise. The great offenders are the metal dishtables which act as sounding boards, intensifying the impact clatter of dishes. Noise conditions can be materially reduced by incorporating the following features:

(a) All tabling adjacent to the walls should not be mounted on legs. Metal brackets or chair carriers should be secured to the walls, and bolts previously spot-welded to the underside of the table edge should be arranged to enter holes in the brackets with firm rubber washers or strips placed between the bearing surfaces. By keeping the backrise 2 or 3 in. away from the wall, an effective means is given to wash down the walls. The top edge of this backriser, in such instances, should be preferably shaped in the form of what we call a "closed roll."

(b) The dishtabling proper should be of stainless steel in heavy enough gauge to prevent distortion under maximum load, and to include channel cross members. It is then possible to treat the underside with a sound-deadening material. A suitable method is to apply a special paint or plastic which is tough and measurably surface hard when set and not affected by moisture or reasonable temperature.

(c) The next sources of undue noise are the sinks and drainboards. They can be supported and cushioned as previously mentioned, and the underside of the drainboards sound-deadened.

(d) Steam injectors should be restricted in number to actual necessity. Most steam injectors fitted to the sinks operate with a definite hammer. The by-pass design should be used which runs parallel to the side walls of the sink and is attached to fittings backing two small holes provided in the side wall. The water is pulled in one hole, passed through a short run of piping, mixed with the steam, and is pushed on through the other hole.

(e) Contributing to the general din are sliding doors servicing various warmers and enclosures, usually of relatively light resounding sheet metal construction. These doors should be provided with snug-fitting firm rubber cushion stops which can readily be replaced, and they should be suspended, tracked, and insulated together with the sheathing of the entire fixture.

(f) The insulation serves a dual purpose of acting as a sound-deadener, and of minimizing the radiation of heat from the warmer, thus aiding in maintaining a cooler kitchen and the use of less heating medium. With this dual functioning, insulation becomes a good investment.

(g) Other clattering features are the utensil drawers. Noise here can be reduced by using properly designed extension slides with ball bearing rollers, rubber stops, and a positive closing and retaining device, and also by cementing in the bottoms linoleum $\frac{1}{4}$ in. thick.

(h) Jacketed kettles should be insulated, including the cover. This would render them more efficient in operation and help to make a materially cooler kitchen.

(i) Communicating doors to the premises should be equipped with electric eye self-operating mechanisms which will avoid the banging entry of porters and waitresses.

Kitchen comfort lies in the maintenance of reasonable temperatures regardless of the operation of heated equipment. Insulation of the heated fixtures as previously described is a great help—also changes in the design of the hood or canopies.

It does not appear that the food service equipment industry has collectively undertaken to solve the problem of conservation of heat application. Consider, for instance, the various types of equipment operated by steam; some bear labels advising the provision of a specific steam pressure, and in many instances no heat value is tied in with the stipulation.

It is understandable that the steam supply will vary appreciably in different institutions. The pressure may be available at 45 lb. and in some instances run to 50 or 55 lb. This pressure is considered excessive by many manufacturers for the operation of coffee urns, steam kettles, and the like. It is presumed that the pressure was identified as being excessive due to the temperature of, shall we say, 50 lb. saturated steam, which approximates 298° F. It is quite likely that the operation of coffee urns with steam at 298° would render the urns far too active and difficult to reduce to a holding stage without continuing to boil the coffee.

It has been customary for engineers to specify the installation of a pressure-reducing valve. In some instances the stipulation is made to place this valve 25 or 30 ft. from the equipment. In other instances, no mention is made of this remote placing of the valve, and it is then closely coupled up with the urn or kettle.

The provision of the pressure-reducing valve, however, does not lessen the temperature of the steam. Therefore, if the strength of the materials of the equipment in question is such that 50 lb. of pressure is a safe factor, then the matter resolves into purely an unmanageable speed of heat. Where a manufacturer recommends the installation of a pressure-reducing valve 25 or 30 ft. before connection to the fixture, it can be assumed that he hopes that radiation from the steam lines will dissipate some of

the heat before it reaches the unit. This, of course, assumes that the steam would travel along uninsulated lines. By advocating such a procedure, the manufacturer has paved the way for an unnecessary heating of the kitchen.

If the application of heat to the fixture is far too intense, as in the case of coffee urns, an appreciable formation of steam is involved, the urns pop off constantly, and an overly large kitchen ventilation system must be installed to take care of this condition.

The pressure-reducing valve would be indicated for the jacketed kettles, the steamers, proof ovens, and coffee urns, and it should be introduced in the main steam line as it approaches the kitchen before branching off to the various fixtures. This will establish a definite and desirable pressure to all fixtures.

In addition, and immediately following the reducing valve, on the low side should be introduced an apparatus which injects a water spray into the steam line, which vaporizes and in so doing lowers the heat value of the steam with which it merges. The control of water spray injection also controls a lowering of the heat value of the superheated steam.

The temperature of 50 lb. saturated steam is slightly in excess of 290° F., and the temperature of 25 lb. saturated steam is approximately 267°. The introduction of a steam-reducing valve in a 50-lb. line would deliver in actual fact a superheated steam at 25 lb. pressure, with an approximate heat value of over 280° instead of 267°F.

In discussing the postwar period with the Society of Naval Architects, the author advocated a revision of the steamship operator's shore catering department by arranging for facilities for acquiring foodstuffs from sources which they measurably control. If the volume of food material per year required by any steamship is not sufficient to justify setting up its own shore commissary complete, then it would seem logical for several steamships to pool their needs and set up a consolidated commissary, which would offer many advantages to the amalgamated group.

A very interesting period is ahead of us in the operation of the food service departments of hospitals, and its seems to me that the same suggestion would present some degree of interest to the dietary department of hospitals. Here the bringing together of relatively small food volumes into one commissary would make an operating problem of great interest and would provide economies and controls not otherwise possible.

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Dehydrated Vegetable Wastes

One project of the Florida Agricultural Experiment Station has been research on highly nutritious dehydrated vegetable wastes. It has been found that the waste outer leaves of Florida celery are very rich in nutritious properties. Florida celery-leaf meal has proved superior to alfalfa-leaf meal as poultry or livestock feed. Moreover, alfalfa-meal has to be imported into Florida while the celery leaves are a waste product there. Similarly the Department of Agriculture's Eastern Regional Research Laboratories near Philadelphia, has found that the outer leaves, tops, and vines of broccoli and other vegetables, contain more and better protein, riboflavin, and carotene than the parts of the plants we normally eat. When dehydrated and milled, these discards make highly nutritious meals that can be used to feed poultry, animals, and human beings. Even the grass growing on well-fertilized putting greens has been found by Pennsylvania State College investigators to contain as much protein as milk.—*T. Swann Harding.*

Norway Girds for World-Wide Competition in Fish Markets

To compete with present day conditions arising from the war-developed, deep-freeze process, the Norwegian State Fisheries Department is perfecting a plan to provide a nation-wide network of quick-freeze and cold storage units linked with a comprehensive system of refrigerated transport. Deep-freeze plants will be constructed near the fishing banks. At these points refrigerated ships will load frozen fillets and sail directly to overseas importing points and distribution points farther south in Norway. At these points, the fish for domestic consumption, will be loaded on refrigerated railway cars and trucks and carried to central distribution centers, from which it will be taken to local retail establishments. Return loads on the land transportation facilities will take care of distribution of frozen meat, berries, and vegetables for consumption in the more arid northern areas of the country.—*From Food Industries 18: (September) 1414, 1946.*

German Equipment in U. S. Army Hospital Kitchens in the Occupied Zone

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Coordinator of Dietetics, American Zone of Occupation

ARMY dietitians who served in England and France, who worked in temporary installations, occupying Niesen huts or tents set up in mud, were surprised and pleased to move into the permanent hospitals of Germany. Not every hospital was able to move into a permanent location, but by the spring of 1946, 10 of the hospitals of the Army of Occupation were operating in German *Lazaretts* (military hospitals) which had been built between 1936 and 1939. The kitchens are beautifully equipped with steam kettles and cabinets, electric or gas stoves, ovens, deep-fat fryers, and storage refrigerators. There are also electric vegetable peelers and mixing machines with many attachments for blending, whipping, and cutting. The ward kitchens are equipped with small gas or electric stoves, sinks, and even steam heated cabinets for warming dishes. Those installations that used electricity for fuel were fortunate because the electric service was restored long before the gas mains could be repaired.

Five former civilian hospitals are also used by the Army. In these the kitchen equipment varies from poor to very complete. Several hospitals were not so fortunate in finding medical installations and were forced to use former German military barracks, or *casernes*. The kitchens had steam kettles and storage refrigerators, but little else. There were no facilities for ward kitchens, and plumbing to supply hot water to the wards had to be installed, even for the nursing service. Most of the refrigerators now in use on the wards in all hospitals were installed by the American Army, as well as all dishwashing machines.

The German kitchen equipment manufactured of chrome steel and white baked porcelain makes an excellent first impression. It is very strong and designed for ease in cleaning. The outstanding features of the steam jacketed kettle found in all German kitchens are its smooth, seamless interior; lid clamps; emergency pressure control valve in the center of the lid; and the large-mouthed faucets. Floor drains directly below the faucets show good planning at the time of their installation. The iron steam kettles used in military barracks are not as attractive as the stainless steel kettles, but have the same mechanical features.

The most popular item with the cooks is the battery of tilting steam jacketed kettles, shown in Illustration 1. As many as 10 of these kettles may be mounted on a platform to form a battery. All steam pipes are encased in a stainless steel base and all fittings are chrome plated or polished. The kettles vary in size from 4 to 40 liters. The lids are hung on a rack behind and above the kettles, and water faucets swing over the pots. These kettles are excellent for soups and sauces.

The tilting deep-fat fryer, or braising pot (Illustration 2) is also very useful, and is excellent for stews, gravies, and braising. It may be heated by gas or electricity. Some are made of chrome steel with baked enamel finish and are fitted with lids, which are lifted from the kettles by steel supports.

Some of the hospitals have excellent coffee makers, as seen in Illustration 3. There are two 45-liter (approximately 9 gal.) urns for holding the brew after it is made in the center glass container. Water for making the coffee is heated by electricity in a separate tank that stands beneath the counter. The coffee grounds are placed on a very fine wire screen in a removable section below the glass compartment. When the water is boiling, it is forced up through the coffee into the glass compartment, and when the exact amount of water has entered—5, 10, or 15 liters—the grounds are steeped for 2 min. and the brew is then syphoned into a side urn. The small glass container shown right of center is used to make a small amount of coffee, such as one or two cups or 1 liter, which may be dispensed directly into a cup. Hot water is supplied from a separate faucet.

The 98th General Hospital in Munich was especially well equipped with containers for delivering food to the wards. The Germans evidently placed the food in pre-heated heavy aluminum containers which were held in steam heated cabinets until the serving hour. The individual diet containers found in this hospital are unusual and excellent for holding the heat (Illustration 4). Three 1-cup size con-

ILLUSTRATION 1. *The author examines three tilting steam-jacketed kettles*

ILLUSTRATION 2. *Lt. Ruth P. Ramsay supervises the pouring of gravy from a tilting deep-fat fryer or braising pot.*

tainers, with small handles, are stacked in an aluminum holder and lowered into a heavy cast aluminum cylinder. A lid is placed on the top container and the cylinder is also covered. There are steam cabinets in the diet kitchens where these containers are kept at the proper temperature until the food cart arrives to take the diet to the ward. This is an excellent way to serve diabetic diets and others that require individual attention, although the initial cost of such containers might seem excessive to American buyers.

There are fewer ovens in the average German kitchen than in American kitchens. Most of the top-stove work is done on gas or electric ranges that stand in the center of the floor. Instead of having one large hot solid top, there is a separate burner for each kettle. These stoves are sometimes 5 ft. wide and 8 ft. long. Often the corners are rounded. Such stoves are not combined with ovens and are usually set on steel legs, or are mounted on a raised floor platform. There are warming cabinets beneath some stoves while others have only an open shelf.

The German's mechanical inventiveness has supplied even an electric stove lighter in the small wards. Other features of the kitchens that the dietitians appreciate are the nonskid tiled floors, usually light in color, and the walls tiled to a height of 6 to 8 ft. Kitchens seem to have an adequate supply of hot water. In general, however, there are fewer hot water faucets in other parts of the hospitals and quarters than in comparable American installations.

The ventilation is usually very good in hospital kitchens, with double windows installed throughout many hospitals. Many people wonder, on seeing the wards, how the building is heated for there is no visible heating system in the more modern buildings; it is hidden in the walls.

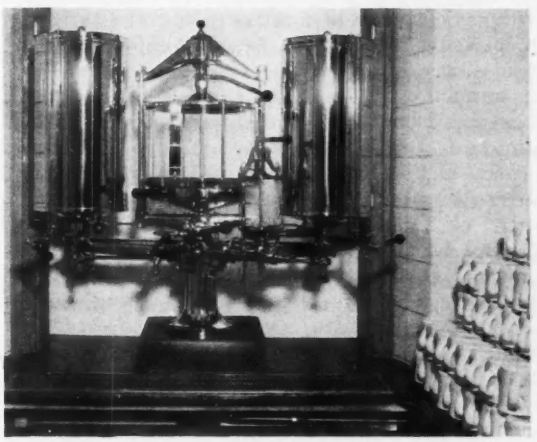


ILLUSTRATION 3. *German coffee maker, showing center glass container in which coffee is steeped and holding urns at either side. Small glass container at right of center is for making a small quantity of coffee.*

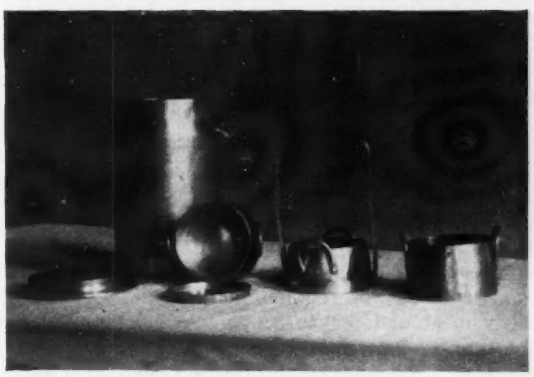


ILLUSTRATION 4. *Individual diet containers designed by the Germans which hold heat well*

The Communal Kitchens in Holland from 1940–1945

HERMINE ZOETHOUT

Teacher of Cookery and Dietetics, Voorlichtingbureau van den Voedingsraad (Education Bureau of the Nutrition Board), The Netherlands

WHEN the Communal Kitchens of the Netherlands were first established their benefit was considered somewhat dubious, for results in this field previously had been rather poor. The so-called "Cookshops" in World War I had not enjoyed a good reputation. But after the capitulation of France in the autumn of 1940, the Dutch people realized that there would be a long German occupation with the attendant British blockade, and the Director-General of Food Supply instituted an inquiry into the necessity and the possibilities of the founding of a series of Communal Kitchens. At first, these kitchens had three objectives: first, to save foodstuffs, since wholesale preparation tends to minimize the percentage of waste; second, to assist single persons; and third, to help certain groups of the population whose incomes were insufficient to meet the rising cost of living. In addition, air attacks, evacuations, and inundations were providing more and more cause for establishment of such kitchens.

By the winter of 1944–45, when the West and part of the North and East of Holland were without gas, electricity, and fuel, and rations were so reduced that the weekly amount of food available was not really sufficient for one day, no one criticized the purpose and operation of the Communal Kitchens. The endless rows of hungry customers who daily lined up with pans and pails at the doors of the kitchens were sufficient evidence that the kitchens supplied a need.

In the early part of the occupation period anyone who wished could be registered as a participant in the Communal Kitchens. However, in the summer of 1941, the German authorities declared certain qualifications. Invalids, single persons, war victims, and other similar types of people only were eligible.

Participants were required to hand in coupons—chiefly meat and potato coupons, although during some periods butter and pulse coupons were also collected. The price of the meals varied with the cost, and the poor paid less than cost.

Gradually a network of kitchens covering the whole nation, all of them related although each was independent of the others, was established. The kitchens took over each other's production whenever one dropped out because of overhauling, and they cooperated unitedly when a town had been bombed or when evacuees or refugees needed help. The distinction between the kitchens in accordance with the specific need for which they had originally been founded and which is discussed below was gradually dropped. The factory kitchens were producing food for school children; relief works kitchens were cooking for the civilian population; and all became "Communal Kitchens" indeed. Total capacity of these kitchens was 2 million 1-liter portions a day. The 1-liter portion was standard until the worst food shortage, when it was reduced to $\frac{3}{4}$ or even $\frac{1}{2}$ liter. Sometimes, too, when towns had been bombed and the gas supply had stagnated, the number of victims to be served necessitated reduction in the size of portions.

The Mass-Feeding subsection of the Food Problems section of the National Bureau of Food Supply controlled the distribution of the general allowance of ingredients to the kitchens, the preparation of meals, the collection and settlement of coupons, general supervision, and appointment of personnel. Regular inspections of the kitchens were made by 10 regional inspectors and six teachers of cookery.

Although built by the National Bureau, the kitchens were operated by the municipalities with only supervision from the government bureau. In the kitchens themselves, the organization was headed by a working- or kitchen-manager, under whom were a chief cook with assistant cooks, an administrator, a fireman, often a butcher, and several assistants. When there were two or more kitchens in one area of a town, an overall director was appointed.

At first the personnel of the kitchens had little knowledge of the preparation of meals. Although the menus were drawn up by teachers of cookery, they

were, in many respects, too theoretical and unsuitable for wholesale preparation of meals. The Bureau soon employed a number of cookery teachers whose duty it was to supervise the preparation of the food, plan menus and recipes, and give instruction in methods of preparation to kitchen staffs. The purpose of these courses was to familiarize the cooks with the new methods of cooking and to give them some insight into dietetics and the composition of menus. Each kitchen also had a manual containing cooking directions, menus, recipes, and technical notes, to which new information was added regularly.

Cooks were obliged to draw up each week a scheme of the menus to be prepared during the coming week, and these "working-schemes" were sent to the cookery teachers in the Bureau, checked, and altered if necessary.

The teachers also contacted headmistresses of schools of home economics and arranged for them to inspect regularly the food from the kitchens.

STANDARDS

High standards both of quality and operation were set by the Bureau to insure that customers of the kitchens obtained the most nutritious meals possible. A special inspection board was established to insure sound composition and condition of the food. Organoleptical, chemical, and bacteriological tests were made on the food to determine quality and freedom from detrimental properties. The inspectors also judged cleanliness with reference to floor, pots, tools, and clothes of the staff. All employees who in any way came in contact with food received medical examinations to determine general health and whether they were carriers of disease. They were also X-rayed to detect tuberculosis.

Special attention was given to the souring of food, and it was found that it could be prevented by keeping food at temperatures above 70° C. and by using clean tins, in which no food particles remained. Special rules were established to minimize the recurrence of such souring.

Regulations regarding methods and procedures of cleaning vegetables were set up to prevent oxidation and development of microorganisms. Machines were installed for scraping potatoes, carrots, and turnips, which were later washed in rinsing tubs. Other vegetables were machine cut. Cooks were not allowed to cook meals ahead of time and let them stand.

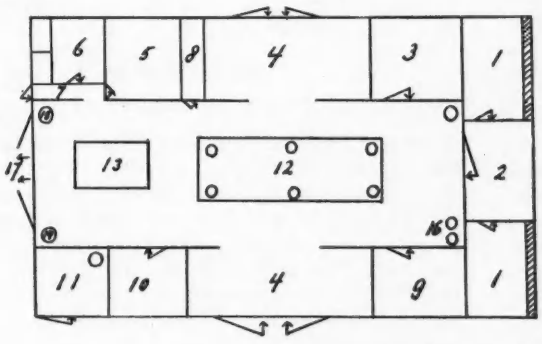
TYPES OF KITCHENS

The national dispensing of food was carried out in five different types of kitchens, each operated according to the need of the group it served.

Municipal kitchens. A survey in 1940 showed 98 existing kitchens in Holland which could provide more than 500 portions a day. To supplement these, it was decided to build 50 additional kitchens in the large cities. Thirty were to have a capacity of 6000 liters a day and 20 would be able to supply 4000 liters. Later in 1942–43, 20 more kitchens were established. From the first, they were all of the same type, so that parts could be standardized for mass production in manufacturing. The kitchen and the space for dispensing the meals were separated by a brick wall, 50 cm. high. A potato elevator was installed over the kitchen so that the potatoes dropped directly into the potato peeling machine. The accompanying floor plan shows the spacial organization of such a kitchen.

The first kitchens showed a number of faults in design and function which were gradually ironed out in kitchens built later, so that the later ones were up-to-date and well equipped enabling efficient operation. Most of the kitchens were equipped with direct steam-injection cooking systems, and totaled a capacity of 260,000 liters a day in 1940.

Factory kitchens. Large concerns set up their own "Private Factory Kitchens" for the dispensing of coupon-free extra meals to their workers. The only responsibility of the Bureau for this type of kitchen was the determining of menus, the preparation of food, hygienic supervision, and supervision in connec-



1. Booking offices (collection of coupons, money, etc.)
2. Canteen for kitchen staff
3. Butcher's section
4. Space for dispensing meals
5. Office for kitchen manager (glass front wall)
6. Dressing-room for staff, with lavatories
7. Passage with outer door
8. Cupboard
9. Larder
10. Larder
11. Room for kitchen range
12. Platform with cooking pots
13. Rinsing tub
14. Potato-peeling machine
15. Machine for cutting vegetables
16. Gas roasters
17. Entrance for supplies

ILLUSTRATION 1. *Floor plan of the simplest kitchens*

tion with the rationing system. At first only laborers performing hard physical labor were entitled to receive extra meals through the factory, but later certain government bureaus were also allowed to provide their office staffs with meals. Laborers received ¾ liter while office workers got only ½ liter. The entire cost of these meals was paid for by the respective factory or bureau.

Miners also received coupon-free extra meals. However, a regulation stated that hot meals could only be supplied to the miners working underground immediately before or after working hours. Hence, in 1941 parcels of sandwiches which could be taken into the mines for consumption while working were distributed. This later had to be discontinued for the bread supply became too small, and hot meals after work were reinstated. In general, the composition of the miners' meals was superior to that of other coupon-free meals. The cost was borne by the mining industries.

Relief works kitchens. These were constructed by the Bureau for the use of the workers of the National Department of Relief and were mostly smaller kitchens where a few coal- or gas-heated fodder pots were used rather than steam injection. These workers frequently traveled many miles to their work and the kitchens were set up to provide hot meals at noon. Coupons were collected from them, and since as laborers they received extra rations, no difficulty with rationing was encountered.

Traveling kitchens. In 1941 the Bureau had a traveling kitchen constructed. It consisted of: two kitchen trucks, which, by means of side walls that could be let down, could be placed side by side to form one room; a rinsing truck; a truck for the cooking pot and for purifying water; and a supply truck. The cooking equipment consisted of eight cooking pots of 400-liter capacity, and in a year's time, 1 million liters of food were prepared in this kitchen.

Later a second unit was put into operation consisting of seven trucks, three of which were used as sleeping cars for the staff. The eight cooking pots had a capacity of 600 liters each. Certain trucks of both units were equipped to supply electricity, pure water, and steam if necessary, and the kitchen trucks were equipped with a potato peeling machine, a machine for cutting vegetables, rinsing tubs, and steam plants.

The traveling kitchens were used while community kitchens were being overhauled and were kept in constant readiness so that they could supply meals at once to any area which had suffered an air attack or other act of war.

Emergency kitchens. Although the kitchens mentioned above could provide 2 million portions a day, it was feared that this capacity might not be enough after the Allied invasion. In anticipation of this difficulty, all concerns, hotels, and establishments possessing cooking pots, steam boilers, and other large scale cooking equipment were inventoried, so that they might be called on to serve should the need arise. In this way, the Bureau had in reserve 1200 emergency kitchens with a combined capacity of some 8 million portions a day, and in the dark days of the winter of 1944–'45, many of these emergency kitchens rendered invaluable service.

Special diet kitchens. Special diets presented a different problem and special measures were taken for patients who could not eat the meals served by the Communal Kitchens. Separate small kitchens to prepare special diets were established in municipalities where there were enough patients to warrant such a move. The arrangement applied only to three groups: gastric or enteric patients, diabetics, and sufferers of tuberculosis.

EQUIPMENT

There were three main cooking systems used in the Communal Kitchens, depending upon the equipment. These were: direct heating, indirect heating, and steam injection. The latter system was felt to be more advantageous because of the short cooking time and the preservation of water-soluble salts, as no cooking water was drawn off. The accompanying illustrations show the various types of equipment.

In Illustration 2 is shown a coal- or gas-heated cooking or roasting pot, employing direct heating. The capacity varied from 100 to 400 liters. These pots were generally heated with coal, wood, peat, or gas, although occasionally electricity was used. Because of the high temperatures obtainable, this type of vessel was suitable for frying and roasting, but rather impractical for cooking vegetables, for the food burned quickly. To prevent burning, a large quantity of water was needed, which later had to be discarded and the salts dissolved in it were lost. Moreover, some of the heat was also lost when the

A. Fire
B. Chimney
C. Tap for drawing off contents of pot

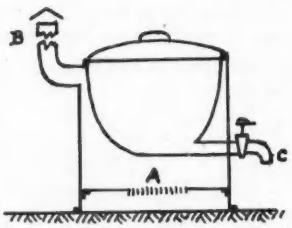
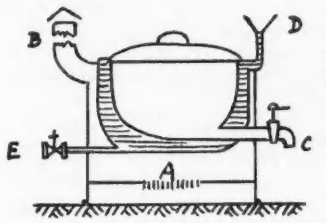


ILLUSTRATION 2. *Coal- or gas-heated cooking or roasting pot*

water was emptied. In these pots, the cooking time for potatoes was 1¼ hr. Since they were not equipped with an automatic stirring device, mashing and stirring had to be done by hand, requiring two preparative operations. This type of equipment was used usually in small kitchens, although larger units usually had one or more such pots for roasting meat and preparing gravy.

The *au bain marie* shown in Illustration 3 varied in capacity from 100 to 400 liters. It was heated

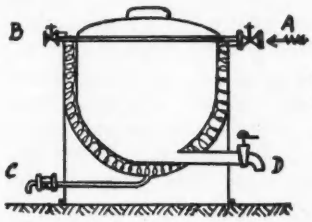
directly by coal, wood, peat, or gas. The double wall contained water or glycerine. This cooker was designed to prevent burning, but here, too, mashing and finishing generally had to be done manually. Cooking time was about 1¼ hr.



A. Fire
B. Chimney
C. Tap for drawing off contents of pot
D. Filling-funnel for glycerine or water
E. Stopcock for drawing off glycerine or water

ILLUSTRATION 3. *Cooking pot* au bain marie

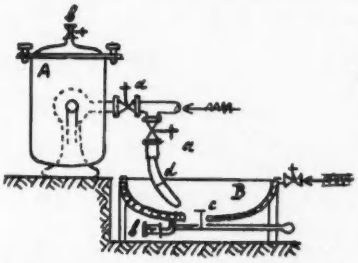
Illustration 4 shows a second unit employing indirect heating, which used high or low pressure steam. Cooking time was 1½ hr. for the first meal, but after the pot was well heated, 500 kg. of potatoes were cooked in ¾ hr. These pots were generally equipped with automatic stirring devices. In contrast to the pot using direct heat, cooking in pots using indirect heat proceeds more rapidly if more water is used.



A. Stopcock steam supply
B. Safety-valve
C. Tap for drawing off condensed water
D. Tap for drawing off contents of pot

ILLUSTRATION 4. *Double-walled steam-heated cooking pot*

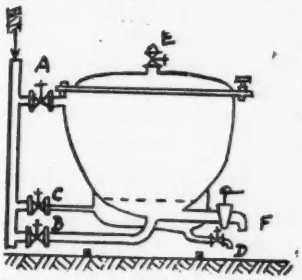
In the steam-injection ensink shown in Illustration 5 food was steamed in an upper pot (capacity 500 liters) which could be rotated around a horizontal spindle. The food was put in the upper pot without adding water, preferably in alternating layers of vegetables and potatoes, and was done in about 30 min. Condensed water was collected and later added to the food. After steaming, the contents of the upper pot were poured into a "waiting pot" with double walls and a capacity of 550 liters, where the food was finished and stirred mechanically. Soup and porridge were cooked simultaneously in the waiting pots. The steam used in this system was always low pressure steam.



I. Tilting cooking pot
  a. Steam supply
  b. Safety-valve
II. Double-walled waiting-pot
  a. Steam supply
  b. Tap for drawing off condensed water
  c. Tap for drawing off contents of pot
  d. Plunging-pipe with steam-cock

ILLUSTRATION 5. *Ensink steam-injection cooking pot with waiting pot*

A Stork or Van der Ploeg steam-injection system (Illustration 6) had a capacity of from 400 to 600 liters. Steam-injection for liquids (soup or porridge) or those giving off much moisture took place at the bottom of the pot. Dry products, such as potatoes, were cooked by steam injection at the top. Steaming time for potatoes was about 25 min. The pots were equipped with mechanical stirring devices, which did not require removal of the lid while stirring, thus minimizing oxidation of vitamin C.



A. Stopcock for top steam
B. Stopcock for bottom steam
C. Stopcock for bottom heating
D. Tap for drawing off condensed water
E. Safety-valve
F. Tap for drawing off contents of pot

ILLUSTRATION 6. *Stork or Van Der Ploeg steam-injection cooking pot*

MENUS

Menus for the kitchens were planned by cookery teachers with regard to the foods available. Both nutritive value and palatability were considered. At first, only mashed food and soup were served, but this soon became monotonous. However, the kitchen staff objected to preparing potatoes, vegetables, and gravy on the grounds that separate preparation involved more work and required a larger staff; more tins were needed; and fat floating on the top of the gravy could be easily skimmed off, thus promoting theft and unequal distribution.

These objections were met. First, more personnel were employed. Many people who had gone into hiding took refuge in the kitchens as the workers. Second, special gravy tins were manufactured. Third, recipes for gravies and sauces, the composition of which practically precluded the possibility of the fat floating on the top, were provided.

In determining menus, a system was first followed where the manager of the kitchen could choose from a number of dishes with fixed quantities of ingredients, and the kitchens were required to prepare all of the dishes a certain number of times during a particular period. Thus the amount of ingredients used per person over a given period was the same in all kitchens.

This system soon proved too inflexible, and the principle of the permitted maxima with the corresponding standard meals was adopted. The manager was allowed to prepare a certain maximum of

ingredients in every 100 liters in a six-day week. For kitchens operating on Sunday, a reserve dish—a porridge—was available.

The permitted maxima determined, of course, the nutritive value and also affected the palatability of the meals. It underwent changes, the caloric value being gradually reduced, just as rations were reduced. However, the caloric value of the meals served by the kitchens never went below 800 calories per liter. Table 1 shows the permitted maxima during the middle of 1941 and 1942 for both the civilian population and the factory workers. Table 2 shows the nutritive value of these menus.

In preparing meals, the manager of the kitchen and the chief cook were allowed some freedom in distributing butter, meat, and greaves. They could also make a choice with respect to the type of dish, and each was allowed, for instance, to prepare mashed food five times and soup once, or soup twice and mashed food four times.

The menus per liter based on the maxima of mid-1941 were:

I. Vegetable soup with pulse
II. Mashed potatoes, carrots, and onion
III. Mashed potatoes with cabbage, leek, onions, or Brussel sprouts
IV. Pea soup
V. Mashed potatoes with salted vegetables
VI. Mashed potatoes with beet roots, turnips, or parsnips

Meat was supplied separately as far as possible, in the form of sausage, minced meat, or hash. When no meat was available, substitutes such as mashed pulse (made to resemble minced meat), bean hash, and potato croquettes, were prepared.

In October, 1943, it was necessary to change the menus, and the quantities of butter and meat permitted for all groups were then reduced so that only one standard type of meal was prepared in the kitchens. These fixed maxima were largely maintained at the same level until "Crazy Tuesday" and the ensuing railway strike. After that time, it was no longer possible to fix the ingredients per 100 liters a week, and the permitted quantities were fixed regionally or locally, varying greatly according to the availability of foodstuffs. Towns on supply lines could compose better menus. In several places managers used up stocks of ingredients rapidly, fearing that the Germans might seize them; others wanted to distribute the supplies over longer periods and became extremely frugal.

During the worst times in the winter of 1944–45, the frozen mashed food prepared by the National Bureau of Food Supply helped considerably. This activity was begun early in 1944, when sufficient

TABLE 1

Maximum of ingredients to be used per 100 liters in 1941 and 1942

	CIVILIAN POPULATION		FACTORY WORKERS	
	1941	1942	1941	1942*
	kg.	*kg.*	*kg.*	*kg.*
Barley	3	2		2
Butter	6.8	5.5	1.7	2
Farina	3	3–9	3	3–9**
Greaves	6	6	6	6
Meat (bone included)	12.5	15		3
Potatoes	403	480	405	480
Pulse	33.5		24	
Skim milk powder	14	4	15	4
Sugar		0.5		0.5

* In November, 1942, kitchens supplied only two standard meals. The coupon-free meals were dispensed to relief works laborers and school children, as well as factory workers.

** Depended on whether food was served mashed or as separate dish.

TABLE 2

Composition of food in one week's menus in 1941

	CALORIES	PROTEINS	FAT	CARBOHYDRATES	CALCIUM	PHOSPHORUS	IRON	VITAMIN A	THIAMIN	VITAMIN C
		gm.	*gm.*	*gm.*	*mg.*	*mg.*	*mg.*	*I.U.*	*γ*	*mg.*
I.	973	37.7	24.1	133	599	848	9.7	4995	1636	72
II.	807	34.1	6.2	149	565	1237	19.17	24545	1543	69
III.	770	34.8	6.3	139	664	838	12.04	3000	1304	112
IV.	895	59.5	9.5	140	681	1130	17.20	4845	1981	57
V.	601	30.6	5.8	128	493	787	9.86		786	51
VI.	768	32.9	5.6	142	501	849	11.37		757	75
Meat, Butter, Greaves	479	19.4	42.9		16	185	2.6	1200	105	2
Civilian population average*	882	41.5	17.0	138	576	987	13.6	6430	1352	73
Factory worker average*	746	35.0	9.0	128	567	881	11.5	6192	952	74

* Per liter.

supplies of potatoes, vegetables, and butter were still available, and it had been possible to kill 300 pigs without the knowledge of the Germans. The Bureau then started to freeze on a large scale mashed food of the following composition per 100 kg. of the frozen product:

85 kg. potatoes
50 kg. meat
1.6 kg. butter
30 kg. vegetables

The food was prepared in kitchens in the neighborhood of freezing plants or in the plant itself. It was frozen both slowly and rapidly, and stored. Experiments were carried on to determine the best thawing method and directions forwarded to all kitchens. By the end of 1944, grateful use was already being made of this frozen food in th e kitchens in the West.

By that time it was more and more difficult to prepare good hot meals each day. As far as possible an attempt was made to supply mashed food (or vegetables, potatoes, or meat, if any, separately) but frequently it was necessary to serve soup four or five times and mashed food only once or twice and porridge once. When potatoes became scarce, they were replaced by sugar beets and tulip bulbs which were unpopular with customers.

Then in 1945 shortly before the liberation, came food from the Swedish and Swiss Red Cross, to be followed by supplies dropped by parachute from the Allies in April. Part of these supplies were made available to the kitchens, making possible a considerable improvement in the composition of the menus. After the liberation, additional supplies of pulse, fat, tins of concentrated soup, dehydrated soup powder, and biscuits were supplied by SHAEF.

However, it was not possible to raise the portions to $\frac{3}{4}$ liter in many areas at once, due to the limited cooking capacity, number of tins, transport, and dispensing centers. Gradually, the position with regard to the kitchens grew more normal so that centralization could be reestablished and a uniform arrangement of the composition of the meals for the whole country could be made.

OBSERVATIONS ON OPERATIONS OF COMMUNAL KITCHENS IN WESTERN HOLLAND

As a member of the Allied Military Service the writer had the opportunity to observe the operations and service of the Communal Kitchens in Holland and a responsibility for the public health and nutrition of the civilian population. There are two observations which, from a public health viewpoint, are worthy of mention, viz., sanitation and case load.

Considering that there was a very limited supply of fuel for sterilization and cookery purposes, instances of contamination resulting in explosive "outbreaks" of food-borne disease was expected. To the credit of the public health officials in their sanitary inspection service, no outbreaks traceable to the kitchens were found. This is of particular interest because bacillary dysentery and typhoid were prevalent in the Western Provinces. The week following liberation of the so-called "B_2" area—May 12–19—there were reported 103 cases of bacillary dysentery and 131 cases of typhoid. An undetermined type of diarrhea was also very common in the general population.

The case load and efficiency of the communal kitchens in meeting the emergency is best expressed by the following data. In 12 cities of Western Holland, with a combined population of 4,176,000, there were 143 Communal Kitchens operating from May 12 to June 2, 1945. During the weeks of May 12 and May 20, 1,635,500 persons received one meal daily and from May 27 to June 2, 1,975,500 people were served daily. This number received one hot meal daily with a caloric value of 300 to 500. Amsterdam, with 20 kitchens, fed 800,000 persons out of a total population of 900,000, during the week beginning May 27.

Also to the credit of the Dutch was their foresight in realizing the need and preparing for mass feeding. It will be noted that preparations began at least five years before the gravest emergency developed. It was found by nutrition surveys that on and just after liberation, the average food consumed per person per day contained about 1000 calories and that approximately 200,000 persons were in a serious state of undernutrition.—*Harold R. Sandstead, senior surgeon, U. S. Public Health Service. Dr. Sandstead held the office of chief, Public Health Branch, G-5, SHAEF Mission to The Netherland from May to September, 1945.*

Processed Green Beans[1]

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LITERATURE concerning the commercial processing of green beans is very meager, and the only reference, Eheart and Sholes (1), found was to the variety, Landreth's stringless greenpod. The present study was made to determine the effect of commercial canning, freezing, drying, and the subsequent preparation for the table, on the palatability and ascorbic acid and carotene content of this variety of green beans.

EXPERIMENTAL PROCEDURE

Processing:

The green beans were harvested and processed on each of four days during the middle of August. Ten bu. of freshly picked beans were sorted, cut, and treated by commercial methods at the Michigan State College cannery. Beans for canning were blanched at 79°C. for 2½ min., put in No. 10 cans which were then filled in the usual manner with 1½ per cent salt brine, sealed, retort sterilized at 115½°C. for 30 min., and stored on the laboratory shelves.

Beans for freezing and drying were blanched at 98°C. for 3¾ min. and then plunged into cold water. Portions were packaged in moisture proof Cellophane bags, frozen at −23°C. and stored at −18°C. The remainder was loaded on trays at the rate of 0.8 lb. per sq. ft. and placed in a laboratory size, single stage, tunnel dehydrator preheated to 60°–66°C., the temperature of which was gradually lowered to 50°–60°C., and dried from 13 to 17 hr. After cooling, the beans were put into brown bottles, part of which were stored under air, the remainder under carbon dioxide, sealed with paraffin and held at room temperature in the laboratory.

Cooking Procedures:

Canned green beans were prepared for the table as follows: 420 ml. of the liquid from the can was boiled, 500 gm. of the drained vegetable added, and boiled for 10 min., then drained for 1 min. on a collander. The solid portion and liquid were analyzed separately.

Frozen green beans (375 gm.) were placed in 315 ml. of boiling water and boiled for 12 min. in an uncovered pan, then drained. They were cooked without salt for chemical determinations but with salt for palatability studies.

Dried green beans (50 gm.) were placed in 750 ml. of boiling water, boiled for 30 min. in an uncovered pan, then drained. As with frozen beans, salt was added for the palatability study but not for the chemical determinations. For the palatability tests of the dried beans, which had been stored six months, the above method was modified so that the beans were soaked for 30 min., then allowed to simmer for 20 min. (2). All cooking was done in 3-qt. enameled saucepans.

Analytical Procedures:

All cooked samples were scored for palatability by four judges using a seven-point rating scale developed by Porter, *et al.* (3).

Analyses in triplicate were made for carotene, reduced ascorbic acid, and moisture on both the raw sample and the various blanched samples on the same day that they were picked and processed. Samples were obtained from the cannery line. This was repeated on either three or four days. After an interval of one month and six months, the beans were

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TABLE 1

Palatability and ascorbic acid content of processed green beans

TREATMENT	NO. OF REPLICATIONS*	PALATABILITY	MOISTURE	ASCORBIC ACID		
				Dry Weight**	Moist Weight**	Cooking Liquid
			gm./100 gm.	*mg./100 gm.*	*mg./100 gm.*	*mg./100 gm.*
Canned:						
Raw	3		89.8 ± 0.6	189.1 ± 19.3	19.1 ± 1.4	
Blanched (79°C., 2½ min.)	3		90.4 ± 0.6	140.5 ± 19.8‡	13.3 ± 1.7	
Canned (1 month)	3		90.9 ± 0.7	51.8 ± 6.5‡	4.8 ± 1.1	5.0 ± 1.2
Canned (1 month—boiled 10 min.)	3	2.8 ± 0.2	90.5 ± 0.8	34.7 ± 9.9†	3.4 ± 1.2	4.3 ± 1.7
Canned (6 months)	3		91.6 ± 0.5	41.1 ± 6.0‡	3.5 ± 0.6	4.2 ± 0.8
Canned (6 months—boiled 10 min.)	3	3.1 ± 0.1	91.0 ± 0.4	36.9 ± 5.5‡	3.3 ± 0.6	3.5 ± 0.4
Frozen:						
Raw	4		88.4 ± 1.5	172.5 ± 21.5	19.2 ± 1.0	
Blanched (98°C., 3¾ min.)	4		89.3 ± 1.5	138.5 ± 10.3	14.4 ± 1.0	
Frozen (1 month)	4		89.4 ± 0.8	122.6 ± 4.5	13.0 ± 1.1	
Frozen (1 month—cooked)	4	6.3 ± 0.2	88.4 ± 1.2	69.8 ± 3.7‡	8.5 ± 1.3	8.6 ± 1.3
Frozen (6 months)	4		89.6 ± 0.5	90.1 ± 14.2	9.4 ± 1.7	
Frozen (6 months—cooked)	4	4.8 ± 0.2	90.1 ± 0.7	50.0 ± 4.2‡	4.9 ± 0.8	3.5 ± 1.2
Dried—Stored in air:						
Raw	4		88.4 ± 1.5	172.5 ± 21.5	19.2 ± 1.0	
Blanched (98°C., 3¾ min.)	4		89.3 ± 1.5	138.5 ± 10.3	14.4 ± 1.0	
Dried (1 month)	4		9.9 ± 0.7	26.0 ± 7.0‡	23.5 ± 6.4	
Dried (1 month—cooked)	4	2.5 ± 0.6	82.1 ± 0.8	8.6 ± 4.4†	2.1 ± 0.8	0.2 ± 1.2
Dried (6 months)	4		10.2 ± 0.7	0	0	
Dried (6 months—cooked)	4	1.7 ± 0.4	82.3 ± 0.5	0	0	0
Dried—Stored in carbon dioxide:						
Raw	4		88.4 ± 1.5	172.5 ± 21.5	19.2 ± 1.0	
Blanched (98°C., 3¾ min.)	4		89.3 ± 1.5	138.5 ± 10.3	14.4 ± 1.0	
Dried (6 months)	3		11.9 ± 2.6	0	0	
Dried (6 months—cooked)	2	2.2	81.9 ± 0.4	0	0	0

* Analyses were made in triplicate for each replication.

** All determinations made on drained, cooked vegetable, except as indicated.

† The probability that this is a chance variation from the fresh value is 1/100.

‡ The probability that this is a chance variation from the fresh value is 1/20.

analyzed as processed and as prepared for the table. Palatability studies were also conducted on all lots.

Reduced ascorbic acid was determined on both the cooking liquid and the solid portion, using the method of Hochberg, *et al.* (4) who modified the Morell method (5) using a Coleman Universal spectrophotometer, Model II.

Carotene was determined on the solid portion. The carotene content of the liquor was not determined routinely since preliminary work showed that even after concentration, the values obtained were too small and too variable to be informative. Determination of carotene was by a modified Petering, Wolman, and Hibbard procedure (6). The standard curve was made with carotene, 90 per cent beta and 10 per cent alpha (S.M.A. Corp.). Moisture was determined by drying the beans at 95°–105°C. for 24 hr. The "t" values were calculated for correlated data.

RESULTS AND DISCUSSION

Table 1 presents the results of the different types of processing on the palatability and reduced ascorbic acid content of the green beans. The average of the palatability scores for the frozen green beans was significantly higher than that of the canned or dried; there was no difference between the average of the palatability scores for the dried and canned products. Six months' storage caused no loss in palatability in the canned beans; in the frozen product, there was a significant loss; and in the dried, a highly significant loss. The most mature beans, which contained the largest seeds, produced the best dried product. This is in agreement with Caldwell and Culpepper (7) that the best dehydration conditions occurred when the seed constituted 10–30 per cent of the fresh weight. There was very little difference in the palatability of the dried beans stored in air and of those stored in carbon dioxide.

TABLE 2

Carotene content of processed green beans

TREATMENT	NO. OF REPLICATIONS*	MOISTURE	CAROTENE**		CORRECTION CONSTANT†	CORRECTED CAROTENE VALUES DRY WEIGHT
			Dry Weight	Moist Weight		
		gm./100 gm.	*mg./100 gm.*	*mg./100 gm.*		*mg./100 gm.*
Canned:						
Raw	4	88.4 ± 1.5	2.94 ± 0.40	0.33 ± 0.02		
Blanched (79°C., 2½ min.)	4	89.2 ± 1.3	3.23 ± 0.47	0.33 ± 0.02	0.905	2.92
Canned (1 month)	4	90.2 ± 0.8	3.59 ± 0.34‡	0.35 ± 0.01		
Canned (1 month—boiled 10 min.)	4	89.8 ± 0.9	3.82 ± 0.38‡	0.38 ± 0.01	0.937	3.58
Canned (6 months)	4	90.3 ± 1.4	3.26 ± 0.35	0.30 ± 0.01		
Canned (6 months—boiled 10 min.)	4	90.3 ± 0.8	3.54 ± 0.26	0.34 ± 0.01	0.928	3.29
Frozen:						
Raw	4	88.4 ± 1.5	2.94 ± 0.40	0.33 ± 0.02		
Blanched (98°C., 3¾ min.)	4	89.3 ± 1.5	3.26 ± 0.34‡	0.34 ± 0.01	0.907	2.96
Frozen (1 month)	4	89.4 ± 0.8	2.83 ± 0.24	0.30 ± 0.01		
Frozen (1 month—cooked)	4	88.4 ± 1.2	3.23 ± 0.28	0.37 ± 0.02	0.875	2.82
Frozen (6 months)	4	89.6 ± 0.5	2.97 ± 0.24	0.31 ± 0.02		
Frozen (6 months—cooked)	4	90.1 ± 0.7	3.27 ± 0.28	0.32 ± 0.01	0.904	2.96
Dried—Stored in air:						
Raw	4	88.4 ± 1.5	2.94 ± 0.40	0.33 ± 0.02		
Blanched (98°C., 3¾ min.)	4	89.3 ± 1.5	3.26 ± 0.34‡	0.34 ± 0.01		
Dried (1 month)	4	9.9 ± 0.7	2.14 ± 0.22	1.92 ± 0.18		
Dried (1 month—cooked)		82.1 ± 0.8	3.01 ± 0.29	0.54 ± 0.04	0.694	2.09
Dried (6 months)	4	10.2 ± 0.7	1.65 ± 0.17	1.47 ± 0.14		
Dried (6 months—cooked)	4	82.3 ± 0.5	1.95 ± 0.18	0.35 ± 0.04	0.837	1.63
Dried—Stored in CO_2						
Raw	4	88.4 ± 1.5	2.64 ± 0.40	0.33 ± 0.02		
Blanched (98°C., 3¾ min.)	4	89.3 ± 1.5	3.26 ± 0.34‡	0.34 ± 0.01		
Dried (6 months)	3	11.9 ± 2.6	1.77 ± 0.31††	1.56 ± 0.23		
Dried (6 months—cooked)	3	81.9 ± 0.4	1.72 ± 0.26‡	0.31 ± 0.04		

* Analyses were made in triplicate for each replication.

** Drained cooked vegetable as served.

† The constant was obtained from the formula $c = \frac{\Sigma xy}{\Sigma x2}$ where y = mg. of carotene per 100 gm. dry weight and x = mg. of carotene in the cooked.

†† The probability that this is a chance variation from the fresh value is 1/100.

‡ The probability that this is a chance variation from the fresh values is 1/20.

All types of processing caused losses of reduced ascorbic acid. Blanching in steam for 2½ min. caused a significant loss, but canning produced even greater losses. Storage for six months changed the ascorbic acid content only slightly from that of the beans canned one month. Farrell and Fellers (8) also found that the residual ascorbic acid after canning was stable for long storage periods. Heating the canned beans in an open saucepan for 10 min. reduced their ascorbic acid content still further.

Frozen beans contained considerably more reduced ascorbic acid than the canned both before and after cooking, but their percentage loss was greater. There was an appreciable loss of ascorbic acid at the end of six months' storage in the frozen product.

After one month's storage, dried beans had the lowest ascorbic acid content of all the beans processed and after cooking contained only insignificant amounts. No measurable amount of reduced ascorbic acid could be determined after six months.

The percentage retentions after cooking the various kinds of stored beans were as follows: canned beans stored six months, 82.3; frozen beans, stored one month, 84.3; stored six months, 77.6; dried beans, stored one month, 25.4. These values represent only the effect of the cooking procedure and are not related to the fresh values. This retention was calculated upon the total reduced ascorbic acid present after cooking by determining its concentration in both the beans and the cooking liquid.

These results show that dried beans experienced the greatest loss of reduced ascorbic acid upon cooking. This may be due to the destruction upon drying of some material which protects the reduced

ascorbic acid during cooking. Frozen beans stored one month had the highest reduced ascorbic acid content and the best retention after cooking. However, on longer storage, the frozen beans lost ascorbic acid as well as the ability to retain this vitamin during the cooking process. The canned beans, although their original content of ascorbic acid was low, retained a high proportion of this on cooking.

Table 2 presents the effects of canning, drying, and freezing on the carotene content of the green beans. In the raw state, Landreth's stringless greenpod beans contained less carotene than that published for other varieties. These results, like those of Mayfield and Richardson (9) and Booher, *et al.* (10), show that all types of processing except drying produced a greater content of carotene per unit of dry weight than was found in the raw beans. Blanching at 208°F. for 3¾ min., canning and heating of the canned vegetable produced gains which were significant. Data from this laboratory (11) have shown that home cooking procedures caused a gain in the carotene content of spinach but that this apparent gain was an artifact due to a change in the relation of total solids in the cooked to the raw vegetable. A straight line relationship exists between the raw and cooked carotene values and constants can be calculated to compare them on the basis of the raw weight.

In Table 2, additional constants were developed for the processes of blanching raw beans, cooking canned, frozen, and dried beans. The correction was not applied to canning and freezing.

The drying process was the only one which reduced the carotene content below that of the raw beans. This indicates an actual destruction of carotene inasmuch as the dried beans actually contained less carotene per unit of dry weight than the original product. Storage for six months decreased the carotene content still further and the use of carbon dioxide atmosphere did not prevent this loss.

SUMMARY

The effects of processing, storage, and cooking upon the palatability, reduced ascorbic acid, and carotene content of Landreth's stringless greenpod beans were studied.

The raw beans contained 19.2 mg. of ascorbic acid and 0.33 mg. of carotene per 100 gm. fresh weight; per 100 gm. of dry weight, the values were 172.2 mg. and 2.94 mg., respectively.

The ascorbic acid content was reduced by all types of processing. Drying caused the greatest loss and subsequent storage reduced ascorbic acid to a negligible amount in the dried product. The percentage retention of reduced ascorbic acid was calculated for each type of cooking processed vegetables.

An apparent increase in the carotene content due to a change in the relation of total solids in the cooked versus the raw state resulted from canning, freezing, and preparation for table use. Drying, on the other hand, caused an actual reduction in the carotene content, and storage of the dried beans for six months caused an additional decrease.

Frozen beans were the most palatable. There were no significant differences between the average palatability scores of the canned and dried beans.

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THIAMIN IN TURKEY MEAT

Tests at the Kentucky Experiment Station show that turkey meat provides not only protein and fat, but thiamin, with the portion of the meat just under the skin richer in this vitamin than the portions extending to the bone. During roasting, it has been shown that the dark meat loses slightly more than half of the original thiamin content, while the white meat loses more than a third. The Kentucky scientists have also conducted tests with left-over, reheated turkey meat and have learned that reheating does not result in any marked loss of thiamin.

MABLE MacLACHLAN
President of the American Dietetic Association

Editorial

MABLE MUNN MacLACHLAN, PRESIDENT OF THE AMERICAN DIETETIC ASSOCIATION

Michigan may well take pride in the accomplishments of its daughters in the dietetic field, for the newly elected president of the American Dietetic Association, Mable Munn MacLachlan, is a native of that state.

Born of a Scotch family and reared in Sault Ste. Marie, Miss MacLachlan graduated from the Sault Ste. Marie High School and attended Michigan State College at East Lansing, earning a B.S. degree.

On completing her college work in 1918, with honors in home economics, she taught for a few months in South Haven, where she was called home by the death of her only brother, Major Ira D. MacLachlan. At that time she accepted a position as assistant in the home economics department at Sault Ste. Marie and soon became head of the department, remaining at home for five years. She then went into hospital dietetic training at the University of Michigan Hospital, Ann Arbor, and at the end of the year received an appointment as staff member, where for four years she was in charge of the ward food service, taught student nurses, and finally managed the commercial cafeteria. From there she went to Michigan State Teachers College in Ypsilanti to teach food and nutrition.

Miss MacLachlan later entered Columbia University for graduate work, receiving her M.S. degree, after which she returned to the University of Michigan Hospital as an administrative dietitian in charge of food production. After the death of the director, Dorothy S. Waller, she was appointed acting director and later director of the Department of Dietetics and Housekeeping, the position she now holds. In this capacity she serves as director of the approved course for student dietitians and has trained nearly 300 dietitians.

Miss MacLachlan is past-president of the Michigan Dietetic Association and has served as treasurer of the American Dietetic Association. Such experience will undoubtedly serve her in good stead in fulfilling her duties as president of the American Dietetic Association. Vision, capacity for work, ability to organize, graciousness, loyalty to her profession, and sympathetic understanding of her staff are some of the attributes which will help her to meet the problems of her new office.

A.D.A. LOANS FOR GRADUATE STUDY

At the A.D.A. convention, October 14–19 in Cincinnati, the Executive Board and the House of Delegates approved the following plan for encouraging graduate study by members. State and local associations are urged to encourage their members to support and use this fund.

In an effort to encourage graduate study in the field of nutrition and dietetics by younger members of the American Dietetic Association, a Loan Fund for Graduate Study is being established. It is increasingly apparent that the profession needs more members qualified to accept responsible positions of leadership for which advanced degrees are requisite. Although some approved courses now offer graduate credit, few of these provide an opportunity to complete the work for the master's degree unless additional time is spent in study. Thus the Association is offering loans to qualified applicants who wish to continue with graduate work toward an advanced degree, but who might not feel able to finance such study without some financial help.

This Loan Fund for Graduate Study was originated by gifts from members and friends of the Association during the past four years. Additions are currently being made by state, territorial, and local dietetic associations, by memorial gifts, bequests, and interest on special funds held by the Association. The opinions expressed by several members that such funds be used for fellowship purposes have been given careful consideration by the committee and the Executive Board. In view of the limited nature of the fund, it has been decided that for the present at least, loans rather than outright gifts can benefit more people.

Funds will be administered by the Executive Board of the Association upon recommendation of the Finance Committee of the Board. A standing committee to be known as the Committee on Loan

Fund for Graduate Study will review applications and select recipients. The policies pertaining to the granting and administering of the Loan Fund for Graduate Study are subject to change as more funds become available. Present policies are as follows:

1. ELIGIBILITY OF APPLICANTS:

Any person who has been an active member of the American Dietetic Association for at least two years and wishes to pursue graduate study leading to an advanced degree may make application for an A.D.A. loan. No more than three applicants from any one state or territory can be considered.

2. HOW AND WHEN TO APPLY:

Applications for loans should be made on special forms which may be procured from the A.D.A. office in Chicago, or from the state dietetic association secretary. Application must be accompanied by full credentials, including transcript of college credits, a photograph, and a personal letter stating plans for graduate work, time and place contemplated, degree sought, and future plans. Application must be endorsed by a state officer or House of Delegates representative of the state association, and by one other member of the Association familiar with the applicant's work in a professional capacity. Applications must be in the Chicago office before March 1, 1947. Notification of loans granted will reach recipients before May 1, 1947.

3. AMOUNT OF LOANS, INTEREST, REPAYMENT, AND SECURITY:

Loans of any amount up to $1000 may be made to qualified applicants, the total loans or installments to be adjusted according to circumstances. The total amount loaned in any one year shall be determined by the total funds available and so proportioned as to provide for equivalent loans in subsequent years. The first year this will approximate one third of the present fund.

Interest on loans shall be charged at the rate of 2 per cent annually, beginning one year from the date of the loan. Repayment of the principle should be made as soon as possible in order to allow other members of the Association to benefit from the loan privilege. It is expected that all loans will be repaid within three years from the date of the loan.

Security for these loans may be provided by endorsement by a responsible person or by life insurance carrying a rider providing for payment of the loan to the Association in case of death. The terms of loans made may not be uniform but may vary according to the facts in particular cases as the administering authorities may deem advisable.

4. SELECTION OF LOAN RECIPIENTS:

Final selection of recipients from among applicants will be made according to qualifications and need as judged by members of the Committee on Loan Fund for Graduate Study. The names of applicants and recipients of loans may be kept confidential if so requested.

THE SECOND MARJORIE HULSIZER COPHER MEMORIAL AWARD

The highlight of the annual banquet of the American Dietetic Association held on October 18 in the Pavillon Caprice of the Netherland Plaza, Cincinnati, was the presentation of the Marjorie Hulsizer Copher Memorial Award for 1946. This award, made possible through the donation of an anonymous gift of $5,000 to Barnes Hospital, St. Louis, in 1944, was established to perpetuate the name of Marjorie Hulsizer Copher in the field in which she worked, dietetics. Since the first contribution, an additional sum of $5,000 has been added to the original fund. The interest from the fund each year goes to the person selected by the Executive Board of the American Dietetic Association with the advice of the director of Barnes Hospital and is given in recognition of the outstanding piece of work done during the preceding year in any branch of dietetics. The 1946 Marjorie Hulsizer Copher Memorial Award was presented to Mary Pascoe Huddleson, who retired as editor of the JOURNAL in May, 1946, after 19 years of unstinting service. In making the presentation, Bessie Brooks West, president of the Association, said:

"The JOURNAL OF THE AMERICAN DIETETIC ASSOCIATION has grown to be a world-recognized scientific publication which has contributed immeasurably to the success of the profession and of which we—of the Association—are justly proud.

"Nineteen years ago, Mary Pascoe Huddleson was asked if she could take time from her family and career to edit our official publication, then only two years old. She accepted the assignment, serving for four years without compensation. Her selection was a happy one because of her scientific background, her ability to write, and her knowledge of the problems of nutrition and dietetics. Her experiences were garnered in many fields—as dietitian for a utility company, in extension work as a teaching dietitian and lecturer for the American Red Cross, as a contributor to women's magazines and New York papers, and as author of the widely-used book, *Food for Diabetics*. She had also served as an Army dietitian in France in World War I. At the time of her appointment, she was a nutrition consultant in New York City. With this broad background and her skillful editing, with her appreciation for and understanding of good public relations, her devotion to the profession, and, in addition, her great ability to meet situations with her sincere though whimsical humor, Mrs. Huddleson was able to build the JOURNAL to its present position.

"It is fitting, therefore, that she has been honored with the Marjorie Hulsizer Copher Memorial Award for 1946 And it is *particularly* fitting that Mrs. Huddleson should receive *this* award because of her close friendship and long association on the JOURNAL with Mrs. Copher.

"I, too, feel honored in having the privilege of presenting to Mary Pascoe Huddleson the Marjorie Hulsizer Copher Memorial Award for 1946 which reads: 'in recognition and grateful appreciation of her exceptional contribution to scientific literature in nutrition and dietetics throughout 19 years as editor of the JOURNAL OF THE AMERICAN DIETETIC ASSOCIATION . . . whereby she has achieved world-wide advancement for the profession through her singular ability, originality, and personal inspiration.' "

Following acceptance of the 1946 Copher Award, Mrs. Huddleson received a silver tureen in token of the Association's appreciation of her efforts and accomplishments during the years she served as editor of the JOURNAL. The past presidents also presented Mrs. Huddleson with a silver ladle for use with the tureen. On the box was a card which read: "Mary Pascoe Huddleson, we, the past presidents of the American Dietetic Association, salute you. You have been well known to us for many years for your outstanding service to our Association. We are grateful for your fine qualities of clear thinking, skillful editing, and loyalty to our profession. You have our affectionate and lasting friendship. Our appreciation of your past work and our wishes for your happiness will be with you always."

PROJECTS OF STUDENT DIETITIANS AT EASTMAN KODAK COMPANY

In November, 1943, Eastman Kodak Company, Rochester, New York, inaugurated an Administrative Training Course for Student Dietitians and admitted a graduate of Kansas State College to begin the 10-month training leading to a certificate in industrial nutrition. Student dietitians were then admitted one at a time usually at monthly or bimonthly intervals until the ninth student was admitted on November 15, 1944.

During the 10-month training period, student dietitians were usually assigned a special project, the subject being determined by a special need or an immediate interest in a particular problem.

The subjects were varied and included: "A Study of the Shrinkage of Meat During Preparation," "Analysis of Food Composition of 'Special' Plate Meals," "Menus for Reduction Diet Including a Lunch Box Meal," and "Survey of Nutritional Balance of Noon Meal Selected by Workers in Five Plants,"[1] and others.

A time limit was not set for the completion of the project and the student dietitians were not required to prepare a formal paper stating the problem, procedures, and results of the study. A brief tabulation or statement was the only report in most cases.

No students were admitted to the course from November, 1944 until July 9, 1945 when the first class was admitted. It was felt that by admitting a group which would be graduated at the same time, an educational program and schedule of training could be promulgated with greater efficiency.

At the same time an administrative project was added to the requirements for graduation from the course to comply with the recommendations of the Professional Education Section of the American Dietetic Association in the "Outline of Course for Administrative Student Dietitians." The recommendations include "some definite provision for independent study in the form of individual projects." The student dietitian is now required to submit to the course director the subject she has chosen for her project at the beginning of the fourth month of training. Assistance in selecting the subject is given when requested, and the students may also refer to projects completed by former students.

One month following the choice and approval of the subject, an outline of the project is submitted. This outline includes a statement of the problem, together with the method, technique, or procedure to be followed in the investigation.

The student dietitians are encouraged to seek the advice and guidance of the staff while carrying out their investigations and in preparing the final paper. On the other hand, they are expected to show initiative and self-reliance in actually performing the necessary study.

Formerly the final paper was due one month prior to graduation. The length of the course was extended from 10 months to 12 months when the class of eight was admitted on July 15, 1946, and the paper is now due at the end of the ninth month of training. This allows six months for the completion of the project and the preparation of the paper. Three of the papers written by student dietitians who completed their course in 1946 appear in the Current Comment section of this issue of the JOURNAL.

In addition to preparing the paper, the student dietitian presents her project at a seminar attended by staff and student dietitians. Following the presentation, a general discussion of the problem and the solution is held. This gives the student dietitians the benefit of the opinions of experienced dietitians.

It is felt that the student benefits from this individual study of a problem in which she has been interested and that the experience may perhaps light a spark which will encourage her to further endeavors in research into administrative problems in her professional life.—*Wintress Dalbey Murray, nutritional adviser, Medical Department, Eastman Kodak Company, Rochester, New York.*

[1] J. Am. Dietet. A. 21: 532, 1945.

New Appointments, Veterans Administration

The following hospital appointments of dietitians (not previously announced) have been made by the Veterans Administration.

NAME	POSITION	LOCATION
	Branch #1	
Mary J. Behlen	Asst. Chief Dietitian	Framingham, Mass.
Lois Bemis	Staff Dietitian	Framingham, Mass.
Bertha Benton	Head Dietitian	Framingham, Mass.
Virginia Bounds	Chief Dietitian	Rutland Heights, Mass.
Pauline Epstein	Staff Dietitian	Newington, Conn.
Helen Gaull	Staff Dietitian	West Roxbury, Mass.
Evelyn Lundstrom	Staff Dietitian	Rutland Heights, Mass.
Mary Anne McCue	Staff Dietitian	Bedford, Mass.
Sara J. Warrenmas	Staff Dietitian	Framingham, Mass.
Dorothy Woodcock	Head Dietitian	Togus, Me.
Wanda Zeudzian	Head Dietitian	Togus, Me.
	Branch #3	
Winifred C. Duffy	Staff Dietitian	Lyons, N. J.
Jane H. Fisdale	Staff Dietitian	Aspinwall, N. J.
Betty Ketcham	Head Dietitian	Lyons, N. J.
Julia B. Miller	Dietitian	Butler, Pa.
	Branch #4	
Virginia Insco	Staff Dietitian	Kecoughtan, Va.
Dorothy Ann McLean	Staff Dietitian	Fayetteville, N. C.
	Branch #6	
Doris Ann Boyle	Asst. Chief, Dietetic Section	Columbus, Branch Office
Patricia Brachowski	Staff Dietitian	Cleveland, Ohio
Eleanor Brecher	Head Dietitian	Cleveland, Ohio
Patricia Brockbank	Head Dietitian	Dayton, Ohio
Sarah Campbell	Head Dietitian	Ft. Custer, Mich.
Virginia Carlin	Chief Dietitian	Dayton, Ohio
	Branch #7	
Kathryn Bruning	Staff Dietitian	Indianapolis, Ind.
Jeannette Moha	Staff Dietitian	Wood, Wis.
Betty R. Richards	Staff Dietitian	Hines, Ill.
Betty A. Schneider	Staff Dietitian	Wood, Wis.
	Branch #8	
Donna M. Oeffling	Staff Dietitian	St. Cloud, Minn.
Marjorie Wilson	Staff Dietitian	Des Moines, Iowa
	Branch #11	
Deloah Gambee	Staff Dietitian	Portland, Ore.
Edna B. Smith	Head Dietitian	Ft. Harrison, Mont.
	Branch #12	
Anne E. Little	Staff Dietitian	Oakland, Calif.
Mary A. Peterson	Staff Dietitian	Oakland, Calif.
Opal Sams	Staff Dietitian	Van Nuys, Calif.
Vivian Teeters	Staff Dietitian	Livermore, Calif.

Promotions, Army Medical Department Dietitians

The following Medical Department Dietitians were promoted during the month of October, 1946. They are on duty in Army hospitals in this country and overseas.

Second Lieutenant to First Lieutenant

Buck, Kathryn V., R-2259
Chellman, Betty P., R-2293
Cuff, Mary E., R-2255
Emerson, Edyth H., R-2221
Hager, Marijane, R-2283
Iverson, Jean A., R-2274
Lydon, Josephine C., R-2042
Mauntler, Doris C., R-2273
Meng, Caroline T., R-2136
Miller, Ellen C., R-2189
Nevels, Elizabeth M., R-2209
Preston, Mary C., R-2240
Reams, Cora W. B., R-2210
Robertson, Mattie L., R-2275
Stevenson, Carol M., R-2112
Washburn, Barbara J., R-2265
Zaladonis, Irene F., R-2264

Army Medical Department Dietitians Separated from the Service

The following dietitians have been separated under the provisions of the Separation Policy established by the Surgeon General for Medical Department Dietitians.

Captains

Carney, Ella K., R-248, 443 W. Walnut St., Watseka, Ill.

First Lieutenants

Armstrong, Mary A., R-2029, 708 St. Olaf Ave., Northfield, Minn.
Bast, Esther M., R-1015, 3630 Lake Mendota Drive, Madison 5, Wis.
Beatty, Vivian L., R-775, 2206 Auburn Ave., Cincinnati, Ohio
Bevins, Florence M., R-2017, 371 Flynn Ave., Burlington, Vt.
Biedermann, Mary A., R-2158, 621 La Bree Ave. N., Thief River Falls, Minn.
Burton, Frances E., R-1433, Black Oak Rd., R.F.D. #1, Wayne Township, N. J.
Clooney, Anne L., R-2144, 211 Water St., Perth Amboy, N. J.
Doak, Almeda E., R-814, Blanco, Okla.
Gildea, Margaret M., R-2015, c/o Lt. Peterson, Rm. 215, Adm. Bldg., Letterman General Hospital, San Francisco, Calif.
Goldberg, Rae R., R-2160, 24 Samoset Ave., Hull, Mass.
Harter, Corinne M., R-2098, 5508 Wilkins Ave., Pittsburgh, Pa.
Hammill, Janet A., R-2055, 1735 S. Frazier St., Philadelphia., Pa.
Hildenbrand, Shirley A., R-2103, Vauxhall, Alberta, Canada
Hines, Anne E., R-2124, 1523 Lexington Ave., Lawrenceville, Ill.
Loetterle, Emma H., R-2072, New London, Mo.
Lohmann, Frances V., R-2215, 613 No. 19th Ave., E. Duluth, Minn.
Montgomery, Mary K., R-2045, El Dorado, Tex.
Regier, Millie M., R-740, 309 E. 1st St., Newton, Kans.
Shankey, Anastatia, R-1309, 7 Allison Ave., Haverstraw, N. Y.

Second Lieutenants

Ashley, Dora L., R-2169, Route 1, Crawfordsville, Ind.
Butler, Margaret E., R-2084, 416 Douglas Ave., Waukegan, Ill.
Dow, Marion M., R-2451, Limington, Me.
Madden, Norma J., R-2315, R.F.D., Allendale, Ill.
Sadacca, Caroline, R-2278, 112 Central Park, S., New York, N. Y.
Smith, Jean S., R-2488, Thompsontown, Pa.

Army Medical Department Dietitians Recalled to Active Duty

The following Medical Department Dietitians, previously reported as separated, have been recalled to active duty.

1st Lt. Marie W. Moore, R-609
1st Lt. Winifred G. Riley, R-1212

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A. D. A. TO TAKE PART IN A. A. A. S. MEETING

The American Dietetic Association, at the request of the American Association for the Advancement of Science, will sponsor two section meetings at that organization's meeting in Boston, December 26–31. At the meeting, all of the major sciences will be represented and the dietetic profession feels honored to be included.

The two section meetings of the A.D.A. will be held Friday afternoon, December 27, and Saturday morning, December 28. The programs have been planned by Elizabeth K. Caso, instructor of nutrition, Harvard School of Public Health, and are as follows:

Friday afternoon: Bertha Burke, presiding

"Techniques of Conducting Nutrition Surveys," by Dr. Fredrick J. Stare
"Nutrition Surveys in Postwar Europe," by Charles Davidson
"The Function of a Nutritionist in a Nutrition Survey of 400 Vermont School Children," by Susan B. Merrow
"Establishing a Nutrition Laboratory in Bogota, Colombia," by D. M. Hegsted
"An Attack on the Malnutrition Problems of Latin America," by Robert Harris, Ph.D.

Saturday morning: Elda Robb, presiding

"Methods of Changing the School Lunch Habits of 650 Junior High School Students"; a report from the Research Center for Group Dynamics, Massachusetts Institute of Technology and Harvard School of Public Health
"Experiments in Nutrition Education in the Schools," by Eugenia Whitehead
"A Practical Approach to Nutrition Education for Children," by Bertlyn Bosley

Current Comment

STUDENT DIETITIANS IN AN EMPLOYEE TRAINING PROGRAM

MARY AGNES POHL

Employee Training Supervisor, Saint Luke's Hospital, Cleveland

A training program can prove to be an important factor in promoting good employee relationships, but to be effective, planning, preparation, and careful attention to teaching procedures are necessary. At Saint Luke's Hospital in Cleveland, a training program was inaugurated in October, 1945. Several months later, it was decided that student dietitians should participate in this program since, in their future work, they will be responsible for training employees as well as writing job analyses and work schedules.

Each student dietitian is assigned a two-week period with the job-training supervisor who is a graduate dietitian. In scheduling student dietitians in such a training program, it is important that the student have sufficient experience in the various jobs so that she will be able to train a new employee properly. Early in the fall, the supervisor conducts two student classes on job training methods so that when the student begins this service she has the fundamentals of training well in mind.

The training procedure followed the pattern of the program worked out by the Training-Within-Industry Section of the War Manpower Commission. When the student is instructed in the operation of any piece of equipment, stress is put upon the four basic principles of how to instruct, namely: preparing the worker, presenting the operation, trying out, and following up. Students, in turn, are expected to follow these fundamentals whenever they instruct.

Student dietitians also have opportunity to assist in developing time-training schedules which are set up so that each skill or phase of a job may be checked off as it is taught. Thus an employee is not held responsible for something she has not learned. Everyone has known of cases in which an employee has been reprimanded for neglecting to do a particular job which she did not understand. Such mistakes lower the disciplinary prestige of both the organization and the supervisor. A training schedule is an aid in eliminating such errors, and it serves as a means of checking on training given, thus preventing laxness in conducting the orientation.

Table 1 shows the time-training schedule which has been worked out for a cafeteria counter woman.

TABLE 1

Time-training schedule for cafeteria counter woman

	1ST DAY	2ND DAY	3RD DAY
1. Preparation of counter for service			
a. Food set up	✓		
b. Control of temperature	✓		
c. Choice of correct serving utensils	✓		
d. Selection of dishes	✓		
e. Serving procedure	✓		
2. Cleaning of counter after service			
a. Cleaning method	✓		
b. Selection of cleaning agent	✓		
3. Operation of coffee urn (according to job breakdown)		✓	
4. Cleaning of coffee urn (according to job breakdown)		✓	
5. Operation of other equipment in cafeteria			✓

Since the establishment of this training program, it has also been necessary to devise a chart to present vital information quickly, clearly, and concisely. It could not entail too great a quantity of work to keep up-to-date. Also, since all student dietitians as well as the employee training supervisor use the table, it was imperative that a chart be developed which anyone could use and which could easily be supplemented. Table 2 shows the form of this chart as it is being used.

The employee's name is written in the first column; this is followed by the job title or position, and then the date of employment. The training period is the first experience the employee has at Saint Luke's; therefore, this column precedes all rating columns. Each employee is trained from three to five days, depending on the job, and the follow-up is scheduled between seven and 10 days after completion of the training period. This is recorded in the next space. The date of the hospital induction tour, which is conducted by the Personnel Department, is recorded in the next column. The following three columns are used to note the employee's ratings and the dates.

TABLE 2

Record form for recording information about employees

NAME	POSITION	DATE OF EMPLOYMENT	TRAINING PERIOD	FOLLOW-UP	INDUCTION TOUR	FIRST RATING	PROVISIONAL RATING	THREE-MONTH RATING	TERMINATION DATE	COMMENTS

The employee is first rated two weeks after beginning work and the results are recorded on this form in blue pencil to correspond with the color used on the progress report. The second rating is done either at the end of one month (if the first rating was unsatisfactory) or at the end of three months prior to the first salary increase, and is recorded in red pencil. The last rating, done at the end of six months, is checked in green. Progress reports are kept in the file of the Personnel Department to be used for reference for salary adjustments, job transfers, and recommendations. At termination of employment, the date is recorded at the extreme right of the chart together with the reason for leaving. A notation is also made of the quality of work and the person's attitude, thereby providing a quick reference.

It has been found from such charts and also as a result of situations confronting student dietitians while on this service that three to five days is the most satisfactory length of a training period, and probably the maximum time which should be expended on this activity. If the training period is too long, the new employee tends to rely on the person in charge instead of developing initiative or pride in her work. However, initial training should be supplemented with further on-the-job instruction and weekly or monthly classes on general topics, such as safety, sanitation, hospital relationships, and organization. A person on a relief position, however, may need longer training, depending on the individual and on the jobs.

SELECTION OF THERAPEUTIC DIETS FROM INDUSTRIAL CAFETERIA MENUS[1]

MADELINE J. WILLIAMS

Widespread education of the public in the field of nutrition has placed emphasis on the dietary requirements of the normal individual. Coincident with this educational movement has been the development of in-plant feeding facilities.

The Eastman Kodak Company, Rochester, New York, in planning cafeteria menus has attempted to include foods which will enable employees to obtain the necessary nutrients specified in the recommended allowances set up by the National Research Council. However, there are those who, because of some organic or functional disturbance, have been placed on a therapeutic diet by their physicians, and it is felt that the dietary needs of this group are important and should also be considered.

The purpose of this study was to determine whether it is possible for employees eating in the company-operated cafeterias to select a lunch which will be nutritionally adequate and therapeutically correct. The dietary needs of ulcer and diabetic patients and those of obese and underweight persons were studied.

To obtain this information, weekly menus were taken from each of four cafeterias operated by Eastman Kodak Company. The menus were listed and the possibilities of choice for the employee following a bland, diabetic, low caloric, or high caloric diet were indicated by marking the proper column.

A brief resumé of the nature of the disorder and the general dietary practice involved in these disorders will indicate the type of foods considered permissible for such patients.

In ulcer management it is necessary to modify the foods in type and consistency as well as in frequency of feedings. The most important thing is that the foods must not be irritating; therefore, the diet must be of a bland nature.

Since the diabetic's disorder involves an insulin deficiency, the treatment consists essentially in compensating for this deficiency, by applying the principles of diet, insulin injections, and exercise. Each patient's diet must be planned to meet his specific metabolic needs. If additional insulin is needed for efficiency in metabolism, the physician will prescribe insulin to be administered hypodermically.

The overweight person may usually be helped through dietary treatment. The chief cause of obesity is overeating, and the quality as well as the quantity of the food may be poor. In between meal snacks may create a surplus of energy which is stored in the body in the form of excess fat. People whose activity is slight expend much less energy than do those who exercise more. As a result, the inactive people tend to accumulate a surplus of body fuel above that which they can use. As they become overweight, they may exercise even less and gain even more weight.

[1] Submitted in partial fulfillment of the requirements for the administrative course for student dietitians, Eastman Kodak Company, Rochester, New York.

TABLE 1

Foods suitable for four types of therapeutic diets included in one day's menu

MENU	OVER-WEIGHT	UNDER-WEIGHT	DIA-BETES	ULCERS
Fruit juices:				
Tomato	X	X	X	X
Apple	X	X	X	X
Soup:				
Yankee bean		X		
Entrees:				
English beef stew		X		
Hamburg on bun	X*	X	X*	X
Macaroni and cheese		X		X
Vegetables:				
Cabbage	X	X	X	
Potatoes		X	X	X
Sandwiches:				
Egg salad		X	X	
Tomato and lettuce		X	X	
American cheese		X	X	X
Leona sausage		X		
Salads:				
Potato		X		
Mixed vegetable	X	X	X	
Cottage cheese	X	X	X	X
Fruit	X	X	X	
Chef	X	X	X	
Plate: potato; meat loaf; tomatoes		X		
Mixed vegetable and egg slices	X	X	X	
Cottage cheese and orange	X	X	X	
Desserts:				
Ice cream		X		X
Caramel nut pudding		X		
Cup cakes		X		X
Beverages:				
Coffee	X	X	X	
Tea	X	X	X	
Milk	X	X	X	X
Bread and rolls		X	X	X
Fried cakes		X		
Sweet rolls		X		
Butter	X	X	X	X

* Bun as part of bread allowance.

If dietary treatment for obesity is to be effective the amount of carbohydrate and fat intake must be reduced, in order to reduce the caloric intake. The protein should be normal or increased. Although the amount of food is limited, the foods chosen should supply minerals and vitamins for the protection of health and provide enough bulk to give a feeling of satisfaction. Wolberg has laid down the following principles of nutrition for maintaining a scientific reducing diet, as follows:

(a) Abundant protein should be supplied to keep the system in a state of nitrogen balance and to prevent tissue, other than fat, from being destroyed.

(b) The energy intake, measured by the caloric value of food, must be sufficiently lower than the energy output to induce a steady and consistent loss of weight.

(c) Ample carbohydrate should be furnished in order to prevent the condition known as acidosis.

(d) All known vitamins and essential mineral salts, especially iron, calcium, and phosphorus, must be in abundance.

(e) Foods must be chosen for their satiety values.

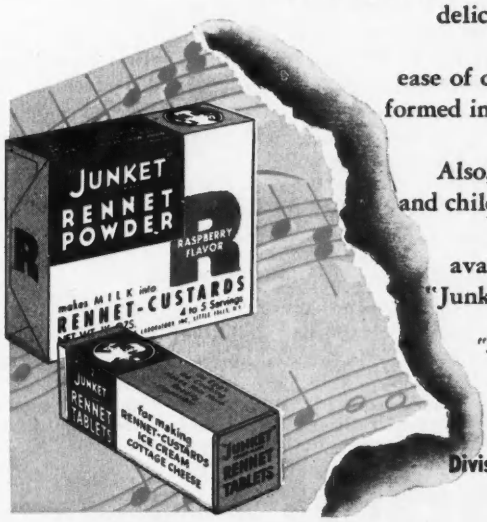
(f) There should be sufficient bulk in the diet to prevent constipation.

The underweight person, on the other hand, has developed a state of malnutrition caused by faulty diet or some disorder of absorption. It may be that there is too little food eaten because of lack of appetite or the meals chosen are nutritionally inadequate. In improving underweight conditions, it is important that the person take sufficient amounts of high caloric foods. To increase caloric intake, larger amounts of carbohydrates and fats are given, and it is important that the employee receive food palatable to him in the amounts he desires. Too much bulk may lower the ability to increase the

Variations

ON THE THEME OF MILK

When the basic dietary theme of milk no longer strikes a responsive chord in children or adults—because of aversion or intolerance—the resourceful "composer" may happily resort to a number of variations . . . by changing the consistency and flavor of milk with either "Junket" Rennet Powder or Tablets, to insure an adequate intake of this essential nutrient. • With quickened appeal to retina and taste-buds, deliciously tempting rennet-custards maintain all the nutritional values of milk—yet surpass it in ease of digestibility because of the smaller, softer curds formed in the stomach by the enzymatic action of rennin. • Let us send full details and trial packages. Also, samples of authoritative, time-saving infants' and children's diets—for physicians "personalized" with our compliments. • "Junket" Rennet Powder available in six popular flavors, already sweetened; "Junket" Rennet Tablets—not sweetened or flavored.



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"JUNKET" BRAND FOODS
Division of Chr. Hansen's Laboratory, Inc., Little Falls, N. Y.

TABLE 2

Possible therapeutic menus obtainable from food served in one day, as indicated from menus in Table 1

OVERWEIGHT	UNDERWEIGHT	DIABETES	ULCERS
Tomato juice	English beef stew	Hamburg on bun	Apple juice
Hamburg on bun	Mixed vegetable salad	Cabbage with butter	Macaroni and cheese
Cabbage with butter	Caramel nut pudding	Mixed vegetable salad	Vanilla ice cream
Chef salad	Bread and butter	Fresh fruit	Milk
Fresh fruit	Milk	Milk	
Milk			

caloric intake. If it will not spoil the appetite at regular meal hours, intermediate feedings may be desirable.

Table 1 shows one day's menus at one of the cafeterias operated by Eastman Kodak Company, together with indication for the selection of foods which would probably be acceptable for the above mentioned four types of therapeutic diets. In cases where foods were served in the cafeteria, but were not listed on the menu, they have been omitted from the chart. For instance, in one cafeteria some fruit is served daily, but is not listed on the written weekly menu. Since these fruits vary from day to day and the exact fruit is not known, it would not be possible in all cases to mark the fruit as suitable or unsuitable. For this reason, it was omitted completely, and therefore the chart may not be accurate in its entirety. Tables similar to Table 1 were prepared for each of four cafeterias for six days.

It is interesting to note that one of the cafeterias offered a special service for employees who were on therapeutic diets. After their diet list had been submitted to the dietitian, a tray was made up at noon to conform to this diet. If the menu did not supply all the necessary foods, special dishes were prepared without extra charge to the employee.

With some therapeutic diets it is essential to consider all three meals, as the nutritive values must be distributed throughout the day. If certain foods (such as potatoes in the diabetic diet) are eaten at noon, they must often be omitted at night. This, of course, is entirely up to the patient, and when they have been included in the menu, it should be borne in mind that the patient must take this into consideration when he eats his evening meal. For the foods listed for the diabetic diets, only those which are unsweetened may be eaten. It is up to the employee to remember this when making his selection. He may have coffee or tea without sugar or if milk is used, it must be considered part of his daily allotment. This also applies to creamed foods, such as soups and foods which do not have a thickening agent which is carbohydrate.

A person on a diet to gain weight may eat all of the foods on the menu, but the selection of those high in caloric value as well as vitamins, minerals, and proteins is necessary.

Table 2 shows sample menus for employees following therapeutic diets which may be constructed from the selection offered at this cafeteria.

SUMMARY

In planning menus for therapeutic diets, it is necessary to bear in mind that special diets are modifications of the normal adequate diet. These modifications may be made in consistency, caloric content, and the balance of the basic nutrients. However, in some instances, it may be necessary to fortify the diet with nutritional supplements due to the complexity of the patient's condition. Therefore, when we consider the adequacy of the foods available for the employee in the cafeteria, this must be given consideration. Individual diets, it must be remembered, may differ considerably, depending upon personal physical conditions and characteristics, and therapeutic diets prescribed by the physician.

The menus studied showed that in all four of the cafeterias which had submitted data, it was possible for employees to obtain a well-balanced meal almost every day. There were few exceptions. The employees, if they chose their foods carefully, would be able to acquire one third of their daily recommended food allowances.

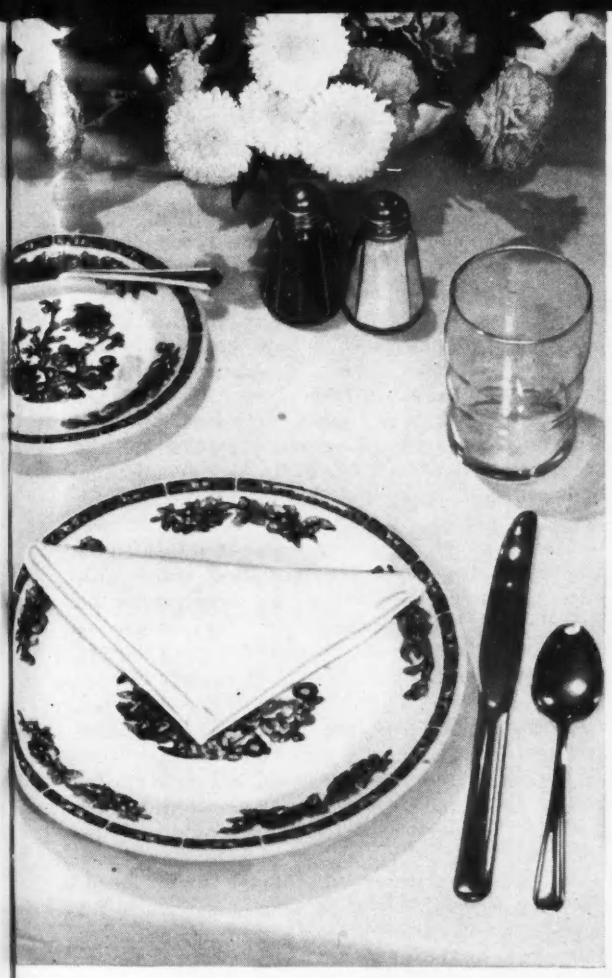
With few exceptions, it should have been relatively easy for employees on diabetic, bland, high caloric, or low caloric diets to obtain a meal in any of the cafeterias surveyed. The results of this survey indicate that both thought and care is given to menu planning, food preparation, and service in these cafeterias in order to give the employee the opportunity to choose those foods which will meet his nutritional requirements.

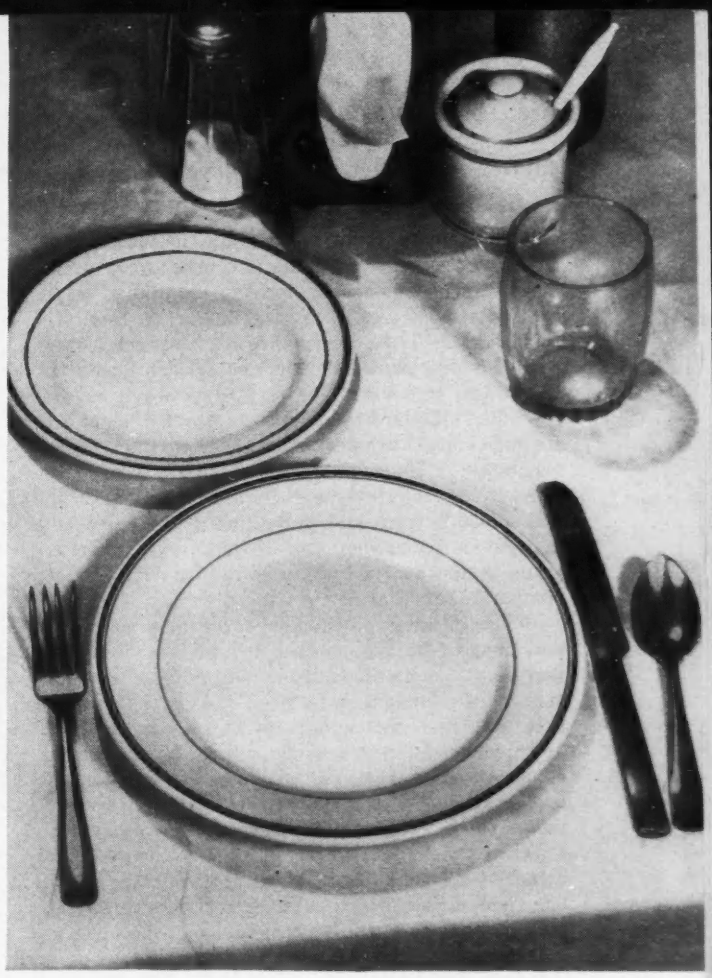
THE USE OF STANDARDIZED RECIPE CARDS AND FILING SYSTEMS[1]

ERMA A. SMITH

The necessity and worth of standardized recipes has been established and accepted by food administrators. However, standardizing recipe forms is

[1] Submitted in partial fulfillment of the requirements for the administrative course for student dietitians, Eastman Kodak Company, Rochester, New York.

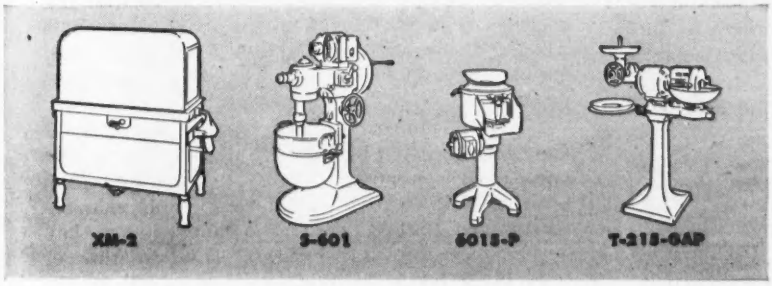




2 Set-ups . . . with 2 Sequels

Put yourself in the diner's place, and just contrast the two. One reflects indifferent management, and along with that, uninspired kitchen operations. The other portrays alert, successful management supported by food service policies at their best, backed up by up-to-date equipment. They tell—at a glance—which operation is headed for success.

Modern dishwashing methods—providing clean, sparkling, inviting tableware—form the keystone of food service standards everywhere. And mechanized dishwashing, properly organized, actually costs less—because of fewer operators who are better paid for better results—because of additional savings in time, breakage and materials. Make a dishwasher's chore into a dish machine operator's job—give him good machines to work with and a sense of real responsibility to work for—and watch it pay off in day-to-day savings and patrons' continuing good will!



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one of the more recent trends. In the past decade, the personnel in restaurants and other food service institutions have become more appreciative of standardized recipes and forms and have come to realize their value. The experience of one restaurant chain with this procedure has been described recently (1).

Perhaps cooks with years of experience will not rely upon standardized recipes as heavily as novices, for such cooks have developed the ability to "guess" accurately. However, if the dietitian records the amounts and methods used by the best cooks in the best possible form and maintains a recipe file, she may be more confident that assistants or beginners trying recipes for the first time will turn out a product comparable to that of the expert.

Before deciding on the best form for a recipe file, one should consider whether a duplicate file will be necessary. Some institutions use an exact duplication for the kitchen and office copies; others duplicate only ingredients and amounts on both copies and include different supplementary information on each copy, such as cost on the office copy and methods on the kitchen copy. This latter system is used by one of the cafeterias of Eastman Kodak Company.

When the forms are printed, the two copies are attached together along the left vertical edge, with a one-time carbon which extends to the right only far enough to include the ingredients, not the method. The duplicate copy, which is used as the office copy, includes cost figures which are not needed by kitchen employees. The original, or kitchen copy, includes method of preparation, rather than the cost columns.

Duplication has the advantage of including all of the information needed by the different people who use the recipes and if one copy should be lost, the information can still be obtained by using the remaining copy. The disadvantage comes in using the carbon. A recipe card heavy enough to stand usage in the kitchen requires the use of a very soft carbon for duplication, and the carbon copy will smudge. Eliminating the carbon and typing twice will, of course, give a neater and more durable record if there is time for such duplication of effort.

The standardized form should be adapted to all types of recipes used in meal service and one which may be easily interpreted by the workers so that each recipe can be followed with a minimum of effort. It should provide for miscellaneous information, list of ingredients, information on cost, and directions for preparation.

Under miscellaneous information comes: name of recipe, file number and file indication; yield of recipe in size and number of servings; and approximate preparation time. In listing ingredients, one should consider measure, A.P. weight, and E.P. weight. Cost information should include: selling price, unit cost, raw food cost for the recipe, serving cost, and serving cost per portion. Method information should cover: mixing procedure, length of mixing time, cooking time and temperature, scaling for pans if necessary, and directions for serving.

The name of the recipe should be prominently displayed in the same place on each card—preferably the upper left hand corner. The use of capital letters will emphasize its prominence. By using the left hand corner, it is possible to maintain an even margin throughout all recipes regardless of the length of the name. This will also save typing time, since the number of letters need not be counted for centering.

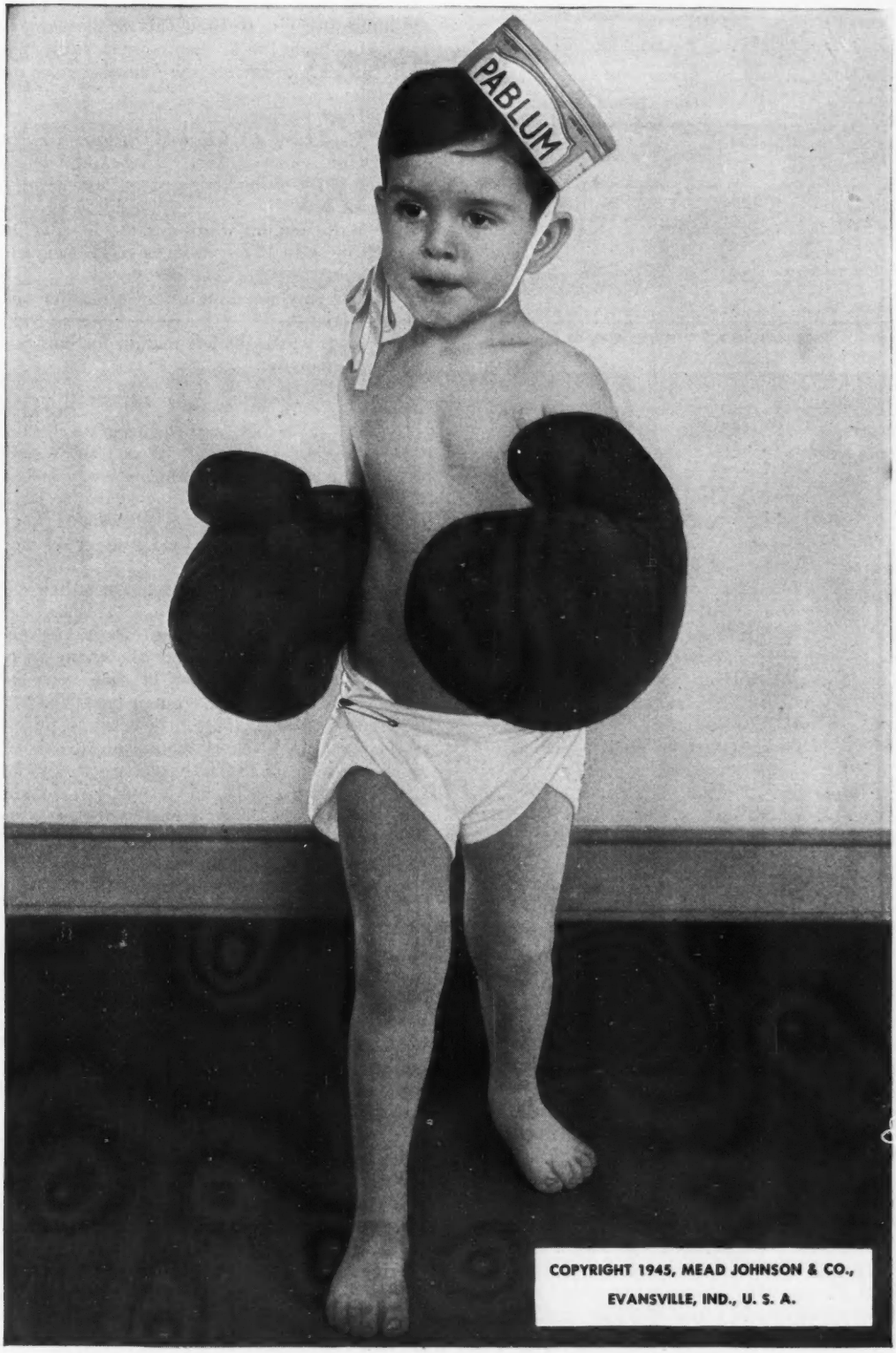
The upper right hand corner may then be used for the file number and section indication. Such location indications are used all too infrequently on recipe cards. There exists the disadvantage of adding new recipes to the file and of keeping them in alphabetical order, but this objection may be partially overcome by using section indication only when collecting recipes, and then adding numbers before putting the file into active use. The original recipes may carry even numbers, leaving odd numbers for recipes to be added later. If more additions are made, letters may be used after the numbers, i.e., 13a, 13b, and 13c.

Section indication should always be included. The number of different sections to be included depends upon preference, but the Iowa State Recipe File which has proved satisfactory, includes: beverages, breads, cakes, cake frosting, cheese luncheon dishes, cocktails, cookies, desserts, egg luncheon dishes, fish, fruit desserts, ice creams and ices, meats, meat substitutes, miscellaneous, pies and pastry, relishes, salads, salad dressings, sandwiches, sauces for meat, sauces for puddings, sauces for vegetables, soups, and vegetables.

File indication and numbers make it easy to check the file for completeness, to accurately refile recipes, and to insure correct filing of duplicate copies.

The total yield of the recipe in size of servings and number of servings should be included. These factors should be checked several times before posting on the recipes to make certain that they are accurate and that the counter servers are actually receiving the required number of servings. Raw and cooked serving portions should be given on products when the portions are determined before cooking. This is especially important for bakery products and meats.

The total preparation time, as well as the total labor hours, should be included in each recipe. The former will be a guide to the cooks for planning the times to begin preparation and is especially valuable for items that need to be started the day before they are to be served. The inclusion of information on total labor hours to prepare a recipe will be especially helpful in planning menus, for the dietitian will then not be apt to overload or underload the cooks for one day. Figure 1 shows such a form.


PABLUM
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Recipe_____ Kitchen File_____

Total Yield_____ Preparation Time_____

Size Serving_____ Labor Hours_____

INGREDIENTS	TOTAL YIELD	ALTERNATIVE YIELD	METHOD OF PREPARATION

FIG. 1. *Suggested form for recipes used in kitchen.*

There are several different schools of thought as to how ingredients should be recorded on the recipe cards. Some people like to have the largest ingredients listed first with the smallest last, but the most popular method is to list them in the order they are used. When they are to be used at the same time, it is advisable to list the colored ingredients after the white ones so that the color will not be transferred on the measuring spoon.

The relative placing of the ingredients and amounts on the recipe card is also important. Listing them on the left side of the card, with the amounts in the first column to the right places all of the figures next to each other and makes it possible to have one or two extra columns for additional figures if desired.

Weights should be given for all dry ingredients with small amounts for measure placed in parentheses if necessary. For liquid ingredients, measure only should be given, and unusual measurements or weights should be avoided. It might be helpful on the office copy to list all ingredients by weight, except for liquids. It is perhaps better to group all dry and liquid ingredients, because they are bought by different criteria.

Although ingredients are listed as E.P. weight, it must be remembered that in costing recipes accurately, the A.P. weight must be used. The A.P. weight is also used by cooks in requisitioning food from the storerooms and refrigerators for use in preparing recipes. There is not enough difference in the two weights usually to warrant an entire column on the recipe form, but when there is a difference, the A.P. weight should be listed in parentheses above the E.P. weight and designated as such.

The quantity of ingredients given should be those required to make a standard number of servings, and a blank column should be left to compute the amount of each ingredient that should be used for a different yield. If these figures are written in pencil, they will stand out, thus making it easy for the cooks to follow. Listing these figures in pencil will also simplify the making of changes as the number of clientele changes. If duplicate copies are used, this blank column will be needed only on the kitchen copy.

In listing ingredients, the following rules may be helpful:

(a) List in order of use.

(b) Use key word, followed by descriptive words, i.e., Onion, chopped fine. (Use capital letters for the first letter of the key word and lower case for all others.)

(c) Write out all words for the ingredients, abbreviating only when absolutely necessary to save space.

(d) Use only standard abbreviations for amounts of ingredients.

(e) Keep a straight left margin for both ingredients and amounts.

COSTING INFORMATION

Because of the importance of accurate cost records, it is advisable to include space on the recipe card used in the office for such information. Such a card may be designed so as to allow space for labor and overhead; number of servings; ingredients; quantity; unit cost; total food cost; food cost per serving; and total cost per serving.

Some recipe forms provide for recording only an approximate cost per serving. This may prove to be inaccurate and insufficient, for it does not offer a simple method of checking the changing prices. By including the unit cost of each ingredient, a quick check is possible. By glancing at the last unit price and comparing it with the new unit price listed in the perpetual inventory book, one can change only those prices on the recipe that have actually changed in market value. Without the unit cost column, it is necessary to use the unit cost from the perpetual inventory book and compute the recipe ingredient cost before it can be determined whether there has been a change in the serving cost of the recipe.

METHOD OF PREPARATION

Although the method of preparation included on recipe cards may not be used by experienced cooks, it will be useful to beginners and will aid in training new employees. To get a product of consistently high quality, it is necessary to determine the best method and follow it every time. Following are some suggestions that may be helpful in writing directions for preparation.

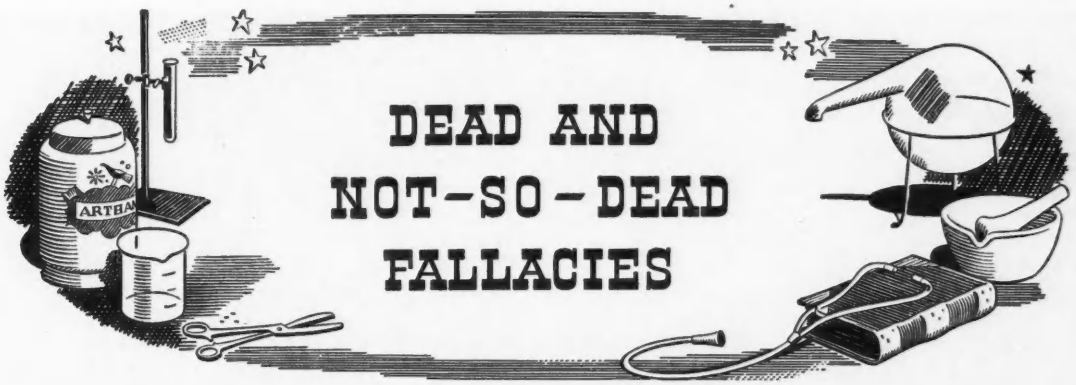
(a) List and number each procedure in its logical order. This facilitates following the steps in their proper order.

(b) Any special directions for handling materials more successfully should be included.

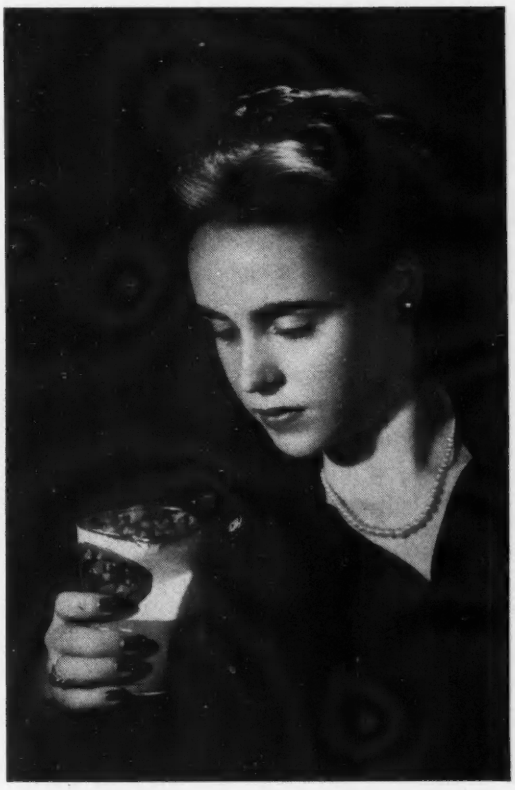
(c) Mixing times and speeds are important in making high quality pastry goods.

(d) Give any preliminary pan preparation.

(e) For bakery products, give the scaling for each pan.



During the plague of 1665, Londoners lit bonfires in the streets, thinking this would "purify the air." They also killed all dogs, which they blamed for spreading the disease. Rats, the real offenders, were left unharmed.



Seeing rust on the outside of a can, leads many people, even in this enlightened day and age, to suspect that the food inside is contaminated. The truth is that, unless the rust has eaten through the metal, the food is perfectly safe for consumption.

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(f) Cooking temperatures and times should be given whenever possible.

(g) The form or forms of serving adaptable to the needs of the institution should be included.

(h) Each direction should be concise and clear.

THE FILING SYSTEM

To obtain the paramount good from recipes put into standardized forms, it is necessary to develop a functional filing system.

The office copy of the recipe may be filed in a loose-leaf book or in a filing box. It is perhaps easier to use the box, since the cards may be more easily removed, recosted, and refiled.

The kitchen copies should be in a separate file, preferably of the box type, since they are used and refiled often. A Cellophane cover should be placed over each recipe before it is used in the kitchen to prevent soiling and bending and to insure longer life.

Each of the files should have adequate index cards for the convenient filing and locating of each recipe. The number of different sections or divisions will depend upon the institution and the total number of recipes on file. The divisional organization of the file used at Iowa State College appears above. Sections should be located alphabetically in the file and the recipes under each section should in turn be filed alphabetically. The indication on the recipe card of file section and section number at the upper right hand corner facilitates filing and refiling.

To include all necessary information, it is usually necessary to use 5 by 8 in. cards. Such a size provides space for inclusion of all information without overcrowding or use of the other side of the card, thus preventing the necessity of turning it over while in use. A heavy tagboard should be used so that the recipe will have a neat appearance, even after much use in the kitchen and many changes in costing data in the office. Different colored cards may be used for the duplicate files so that danger of mistakes will be cut to the minimum. White may be used for the office copy and yellow for the kitchen copy.

SUMMARY

As standardized recipes are receiving more and more acceptance in large scale cookery, the need for a standardized recipe form becomes more apparent. In choosing a standardized form, one should choose a style adapted to all types of recipes used in the meal service, yet one which may be easily interpreted by the workers so that each recipe may be made with a minimum of effort. This standardized form should provide for miscellaneous information, listing of ingredients, costing data, and directions for preparation and service.

REFERENCE

(1) WILLIAMS, S. R.: Standardization of food and recipes at Harding's. J. Am. Dietet. A. 22: 144, 1946.

A COMPARATIVE STUDY OF FROZEN, FRESH, AND CANNED VEGETABLES

BARBARA E. WHEELOCK[1]

This study was conducted in an attempt to determine some of the advantages and disadvantages of the use of frozen vegetables as compared to fresh or canned vegetables in large quantity feeding operations of industrial food service.

It was impossible to investigate all of the vegetables offered on the frozen food market. Therefore, only those most likely to prove practical for service in the industrial cafeteria were considered. The study included 12 vegetables: asparagus, green snap beans, wax beans, Lima beans, beets, broccoli, carrots, corn, kale, peas, spinach, and squash.

The frozen, fresh, and canned form of each vegetable was not always available for investigation due to seasonal limitations of fresh produce or because a vegetable was not available in the canned form. In every case, however, the frozen vegetable was compared with one other form of that vegetable.

With frozen foods coming into common usage, it was felt that their status in quantity food production and in the industrial cafeteria should be ascertained. To do this, the new form of the product was compared with those which have been in use.

EXPERIMENTAL PROCEDURE

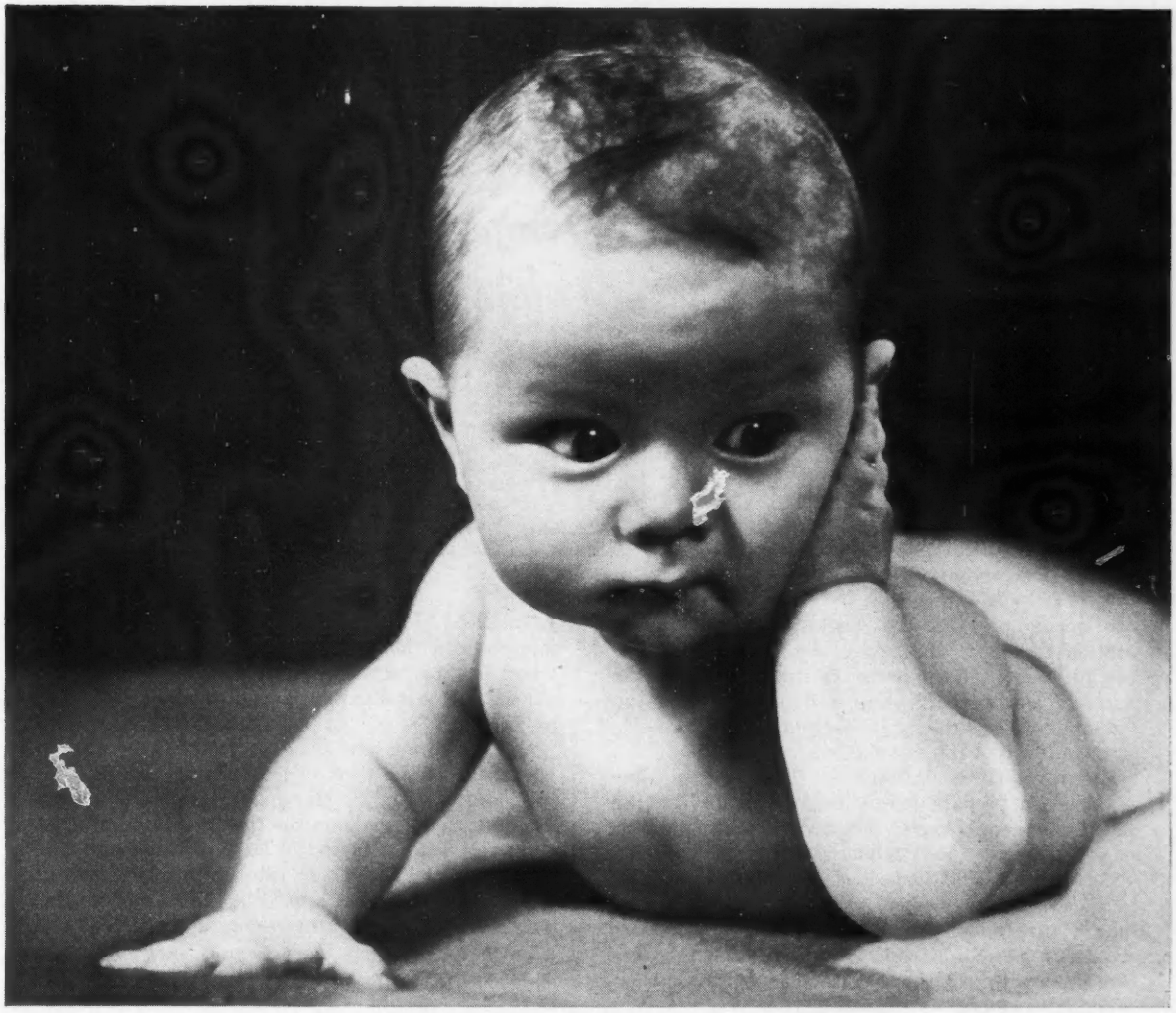
Ideal experimental procedure for a study such as this would provide for the quantity preparation of each frozen vegetable to be investigated simultaneously with the fresh and canned form of that vegetable. Unfortunately, this study was not conducted under such ideal circumstances.

Information was collected during food preparation work at four different industrial cafeterias. As a vegetable appeared on the menu, the form used—frozen, fresh, or canned—was investigated. Data were organized into waste studies, time studies, labor cost studies, and quality ratings for the freshly cooked product and for that same product after it had stood on the steam table for 20 to 30 min.

The waste studies compared the weight of the fresh vegetable as purchased (A.P. weight) with the weight of the vegetable after preparation for cooking (E.P. weight). Figures obtained from waste studies were used in calculating the amount of fresh vegetable necessary to provide 100 portions weighing 3-oz. after preparation. A figure for cooking shrinkage was not recorded.

Time studies were made to determine the length of time required for preparation of the vegetables for the cooking process. In cases where more than

[1] Submitted in partial fulfillment of the requirements for the administrative course for student dietitians, Eastman Kodak Company, Rochester, New York.



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This yuletide, America's "younger set" will dine on a notable development of the National Dairy Laboratories.

It is an infant food, built on a milk base. It contains all the vitamins and minerals that normal babies are known to require. They're put right *into the milk itself* — so no supplementary vitamins are necessary.

That saves time for busy mothers. It saves mistakes, too. There's no danger of forgetting something essential. Best of all, it provides adequate nutrition for babies at a price that even low-budget families can afford.

Formulac, this infant food, has been tested under clinical supervision and proved successful in promoting growth and development. It has been accepted by the Council on Foods and Nutrition of the American Medical Association. It should be used upon the recommendation of your physician.

Formulac, available in drug and grocery stores, is another product of National Dairy's constant research in the field of nutrition. It is consistent with the modern idea that it is better to prevent illness by proper feeding during the first, most critical period of human life than to try to correct nutritional disorders *after* they occur.

To that extent, it marks a real Christmas present to the nation's children.

Dedicated to the wider use and better understanding of dairy products as human food . . . as a base for the development of new products and materials . . . as a source of health and enduring progress on the farms and in the towns and cities of America.

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TABLE 1

Preparation time and labor cost

VEGETABLE*	PREPARATION TIME IN MINUTES**			TOTAL LABOR COST†			LABOR COST PER SERVING		
	Frozen	Fresh	Canned	Frozen	Fresh	Canned	Frozen	Fresh	Canned
Asparagus	26	50	20	$.26	$.50	$.20	$.0026	$.0050	$.0020
Beans, green snap	27	175	20	.27	1.75	.20	.0027	.0175	.0020
Beans, wax	14	175	20	.14	1.75	.20	.0014	.0175	.0020
Beans, Lima	28	224	20	.28	2.24	.20	.0028	.0224	.0020
Beets	26	70	17	.26	.70	.17	.0026	.0070	.0017
Broccoli	30	170		.30	1.70		.0030	.0170	
Carrots	26	75	17	.26	.75	.17	.0026	.0075	.0457
Corn	25	162	17	.25	1.62	.17	.0025	.0162	.0017
Kale	28	100		.28	1.00		.0028	.0100	
Peas	26	220	16	.26	2.20	.17	.0026	.0220	.0017
Spinach	26	70	17	.26	.70	.17	.0026	.0070	.0017
Squash	41	135		.41	1.35		.0041	.0135	

* 100 servings each.

** Includes both initial preparation and cooking time.

† Based on arbitrary figure of 60 cents per hour.

one worker prepared the vegetable, the total preparation time was divided by the number of workers to assure all preparation time being on the basis of one worker. Time studies were done on amounts of vegetable available and were then calculated in terms of 100 servings.

Average figures were used. The average time required to prepare frozen vegetables for cooking was 2 min. per package. Frozen vegetables must be unwrapped and placed in boiling water, while canned vegetables must be opened, placed in insets, and set in a *bain marie* to heat. The average time required to prepare canned vegetables for cooking was 3 min. per No. 10 can. Fresh vegetable preparation time varied with the vegetable and the condition of that vegetable. Preparation time was recorded as minutes required for one worker.

The cooking process was also timed.

For ease in drawing comparisons, all figures were based on amounts of vegetables required for 100 servings, regardless of quantity actually used. The time required for preparation, the quantity of fresh vegetable necessary to compensate for waste, and the number of pounds of frozen vegetable or number of cans of canned vegetable were all based on this standard amount.

Studies were done to ascertain arbitrary labor cost because of the importance of preparation time in comparing frozen vegetables with other types. Initial preparation time—that is, preparation time prior to cooking—and cooking time were added to obtain total preparation time. It was assumed that one person worked on the product during the entire time. A figure of 60 cents per hour[2] was used for the labor cost. Total preparation time multiplied by labor cost per hour and divided by 100 provided the labor cost per serving. Comparison of labor cost per serving of frozen and canned vegetables is shown in Table 1.

Quality rating was done subjectively by the investigator at the time of preparation. Color, texture, and palatability were considered and described. The rating was made on the freshly cooked product and again after a period of 20 to 30 min. standing on a steam table. These results for five of the 12 vegetables considered appear in Table 2. Similar ratings were done for the other seven vegetables. An attempt was then made to provide an objective basis for the purpose of comparison. Each subjective comment was compared to the other comments appearing in the table and given a rating: 3 for good, 2 for medium, and 1 for poor. Thus a "bright green" frozen pea would have a color rating of 3 whereas the "dull pale" green of the canned pea would rate 1.

These numerical ratings are also indicated in Table 2 by the figures.

DISCUSSION

The results of this study may be divided into two parts, those dealing with labor cost comparisons and those dealing with quality comparisons.

By considering the preparation time required for the various forms of vegetables, one may obtain the most significant conclusions. Table 1 reveals that in every instance at least twice as long a total preparation time was required for fresh vegetables as for either the frozen or canned. Both the initial preparation and the cooking time for fresh vegetables were higher than for frozen, although the initial preparation time was by far the greatest. Frozen vegetables required slightly longer preparation time than canned vegetables, though the

[2] This is an arbitrary figure, used for ease in calculation and ease of labor cost comparison. It had no bearing on actual labor costs nor did it represent a prevailing wage in the area in which this study was made.

That Spread Reaches Junior Miss;
2-Inch Gain, Girdle Makers Say
NEW YORK, April 10 (UP)
Girdle designers conceded today
that the average American junior
miss has spread about two inches
beyond the prewar model. To keep
the girls from popping a seam, the
makers will just have to
from buyers all over the Unit
States soon indicated that jun
misses from Syracuse to San F
cisco were spreading.
"The normal waist used
from 25 to 26 inches, wi
hips about 34 to 35 inches
Lidhern said.
DESIGN
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REDUCING DIET FOR TEEN-AGE GIRLS
Special 1500-Calorie Diet
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SUPPLEMENTS POPULAR RY-KRISP
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Here at last is a reducing diet prepared especially for the teen-age girl who is in normal health but overweight.

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Please send free, _____ copies of low-calorie diet for teen-age girls, No. C966; and _____ copies of low-calorie diets for men and women No. C566.

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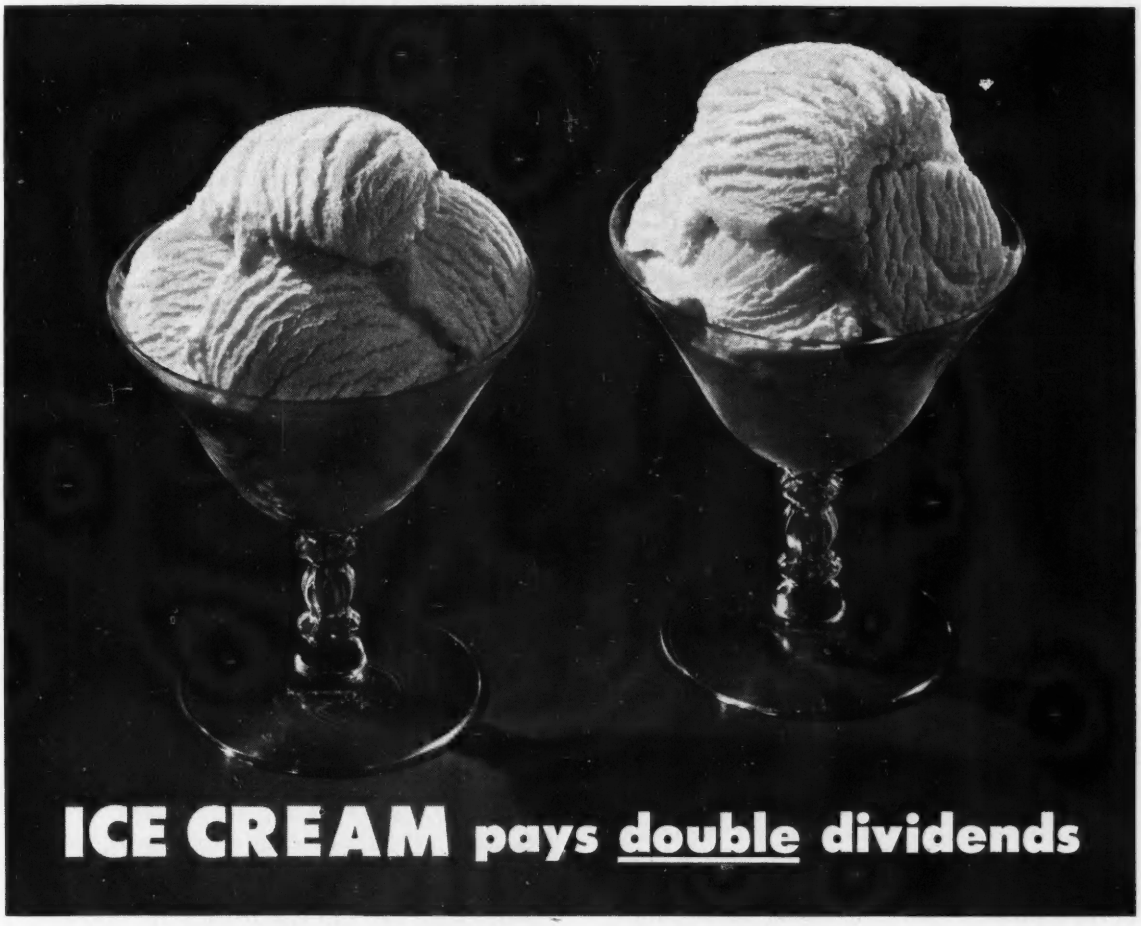
TABLE 2

*Quality evaluations for fresh cooked vegetables and vegetables held 20 to 30 minutes on steam table**

QUALITY CHARACTERISTIC	FRESHLY COOKED			HELD 20 TO 30 MINUTES		
	Frozen	Fresh	Canned	Frozen	Fresh	Canned
Beets						
Color	Dark red 2	Clear, bright red 3	Clear, bright red 3	Black 1	Dark red 2	Black 1
Texture	Slightly soft 2	Firm, tender 3	Firm, tender 3	Soft 2	Firm, tender 3	Firm, tender 3
Palatability	Slightly flat 2	Good 3	Good 3	Slightly flat 2	Slightly flat 2	Slightly flat 2
Broccoli						
Color	Bright green 3	Green 2		Slightly olive 2	Olive 1	
Texture	Firm, tender 3	Varies, or firm and woody 2		Firm, tender 3	Soft, breaks 2	
Palatability	Mild, good 3	Mild, good 3		Good 3	Slightly strong 2	
Carrots						
Color	Deep orange 3	Medium orange 2	Pale, lighter than other types 1	Deep orange 3	Medium orange 2	Pale 1
Texture	Firm, tender 3	Slightly crisp, tender 3	Soft, tender 2	Tend to break 2	Tender 3	Tend to break 2
Palatability	Good 3	Good 3	Flat, processed 1	Good 3	Good 3	Flat, processed 1
Corn						
Color	Good 3	Good 3	Good 3	Good 3	Good 3	Good 3
Texture	Tender 3	Varies, tender to tough 2	Tender 3	Tender 3	Varies, tender to tough 2	Tender 3
Palatability	Sweet, good 3	Good 3	Slight flat 2	Good 3	Slightly flat 2	Slight flat 2
Kale						
Color	Slightly dull green 2	Slightly dull green 2		Olive dark 1	Olive dark 1	
Texture	Slight crisp, tender 3	Varies, woody or tender 2		Soft 1	Soft 1	
Palatability	Good 3	Good 3		Slightly strong 2	Slightly strong 2	

* Numbers indicate degrees of acceptability: 3 = good; 2 = medium; 1 = poor.



...Nutritious

Ice cream makes a substantial contribution to the body's food needs. An average serving of vanilla ice cream provides about 1/6 of the calcium needed by an adult daily, and generous amounts of other minerals found in milk.

It also contributes vitamin A and Riboflavin (vitamin G), two important nutrients. Fruits, nuts and other added ingredients in accordance with their nutrient content increase the food value of ice cream.

...Delicious

It's seldom you find a food so nutritious that can *taste so delicious, too!* Yet ice cream's exhilarating flavor and cooling satisfaction are thoroughly relished by everyone.

Ice cream fits into every menu, from barbecue to banquet, and rightfully deserves the welcome reception it receives.

No wonder medical authorities and nutrition experts concede to ice cream — the double dividend food — a place of prominence in the nation's food supply.

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A non-profit, educational organization promoting national health through a better understanding of dairy foods and their use.

differences were not great. The major difference was in the cooking time for frozen vegetables, which was two to three times that needed for canned vegetables.

When the labor factor was considered in arriving at the food cost per serving, it was found for six of the vegetables that the frozen product was far less expensive than the fresh product but slightly more expensive than the canned form. However, in the case of kale, spinach, and corn, it should be remembered that these are extremely seasonable products available in the fresh form at moderate cost only during a limited season. The frozen product is, however, available at all times.

For the final comparison, it was necessary to take into consideration the quality of the finished product. The quality scores (Table 2) indicate that both fresh and frozen vegetables have similar ratings in their freshly cooked state. The same is true for the holding quality of fresh and frozen, but the total quality scores for the products reveal that with two exceptions—wax beans and spinach—the frozen vegetables had the higher total score. The results and observations of this study indicate that wax beans are a very poor product in the frozen state. Both price and quality figures would indicate that root vegetables, such as carrots and beets, are not too successful in the frozen form.

Quality scores for both fresh and frozen vegetables proved very similar. However, it was the cost of labor for the lengthy preparation time required for fresh vegetables that brought their cost so close to the total food cost of the frozen food product. Therefore, in consideration of the number of employees and amount of time required in the preparation of fresh produce, plus the fact that frozen vegetables are available all year, it may be concluded that frozen vegetables are more desirable for food service in industrial cafeterias, with the exception of the root vegetables such as carrots and beets.

CONCLUSIONS

This study was conducted to determine the advantages or disadvantages of using frozen vegetables rather than fresh or canned vegetables in the food service of industrial cafeterias. Waste studies, time studies, labor cost comparisons, and evaluation of quality characteristics of the various forms of twelve vegetables were made.

The following conclusions may be drawn from the results of the study:

(a) From the standpoint of labor cost, fresh vegetables are more expensive than frozen vegetables.

(b) From the standpoint of quality, the frozen and fresh product are similar. The canned product rates much lower.

(c) A lack of available labor for preparation of fresh vegetables and the seasonability of the fresh product results in the conclusion that the frozen vegetables are preferable for large scale industrial food service.

Recommendations prompted by this study include:

(a) On the basis of the 12 vegetables studied, the frozen vegetables, with the exception of root vegetables and wax beans, are recommended for use in industrial food service.

(b) Inasmuch as the frozen food industry is still growing and will continue to offer the industrial cafeteria wider selection and greater quantity of vegetables, there should be further study conducted to confirm the profitable use of frozen vegetables.

Figuring Comparative Costs of Canned vs. Frozen Foods

A method of comparing costs of vegetables—fresh, frozen, and canned—is given by the American Hotel Association in its *Operations Bulletin* as follows:

Since frozen vegetables are ready to cook without further waste and with negligible cooking losses, the cost per lb. (*A.P.*) may be regarded as equal to the edible lb. (*E.P.*). Prices of fresh vegetables vary according to season and region; therefore, a formula for determining the cost per *E.P.* seems preferable to any specific listing of prices.

Attention is called to the fact that the content weight on can labels included the weight of the liquid, and that the drained weight ranges from two thirds to three fourths of the label weight.

Comparisons by cost alone should not be made. Quality varies among the brands of frozen vegetables, just as it varies among the fresh and canned products. The components of quality are flavor, tenderness, color, and other special factors applied to each kind of vegetable.

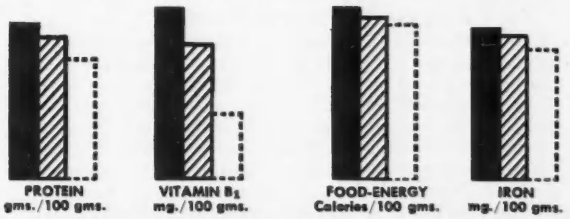
"This one I call 'Complete Contentment'—symbol of all the folks who voted Quaker Oats America's Best-Tasting Cereal!"

Triumph for Nutrition!

Quaker Oats Voted Favorite American Cereal!

YES! In a recent national survey more people named Quaker Oats "best-tasting" than named any other brand of cereal, hot or cold. How wonderful to know that the cereal American families like best is also the cereal grain recognized as best by food authorities . . . in PROTEIN, the great growth and stamina element . . . in FOOD-ENERGY and FOOD-IRON . . . and best of all natural cereals in VITAMIN B_1! Quaker Oats is, indeed, the national cereal-favorite for breakfast . . . a recognized food for development for all ages!

OATMEAL LEADS NATURAL WHOLE WHEAT CEREALS (HOT OR COLD) IN 4 KEY ELEMENTS



Reference: "Table of Food Composition," Committee on Food Composition, Food and Nutrition Board, National Research Council, March 1, 1944.

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An invaluable booklet for use in the classroom and for reference. You'll find convenient information on oatmeal in the basic breakfast; about its content of amino acids, iron, Vitamin B1; and how it can be used economically in baking. For FREE copies, write Mary Alden, THE QUAKER OATS COMPANY, Chicago, Ill.

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Book Reviews

Nutrition in Public Health. By Lucy H. Gillett, M.A., formerly director, Nutrition Service, Community Service Society, New York City. Philadelphia: W. B. Saunders Company, 1946. Cloth. Pp. 303. Price $2.75.

While this new book is written for the public health nurse whose duties may include "the instruction of parents, teachers, and others in the basic principles of nutrition; assisting families in planning protective meals and food budgets in accordance with available means; and supervising the diets of those whose physical condition requires special attention," it will also be of particular interest to nutritionists and dietitians whose functions may be just those stated above. The dietitian in the hospital and the food clinic who must help the home-going patient and his family, as well as the public health nutritionist who must work with allied professional groups, will find valuable material presented in an attractive, readable, and logical form.

The rights of infants and preschool children to nourishing and well prepared meals are thoroughly developed. An appreciation is given for the information necessary to enable a mother to help her baby "enjoy" his meals and thereby foster good food habits. A description is given of the learning process, the development of proper attitudes, and attention is given to details in good eating, including attractive combinations, comfort in eating, and avoidance of force.

The problems of the adolescent and the adult—"the neglected age"—are considered separately. Special treatment is given to the problems encountered in trying to change the food customs of various racial and national groups. Cultural food habits, family attitudes, and a complete understanding of commendable values of foreign foods and recipes should be referred to frequently by workers dealing with these groups.

Diets for "special conditions," including pregnancy and lactation, nausea during early pregnancy, food during labor and after delivery are considered. Diet for the control of weight is also discussed—both for reduction and weight gaining. A review of some of the emotional problems which are not only causative but which must be considered if therapy is to be effective in these conditions would have been valuable.

The last section deals with the problems of "making a spending plan" which will be both usable and acceptable to the client. The author warns that these "guides are averages which should be used, not as inflexible rules to be applied regardless of a situation, but as a basis for comparison which will lead to a more comprehensive and intelligent investigation of 'whys and wherefores.' If a family is spending more or less than is indicated by the guide, the natural question is 'why?' Any deviation from the suggested amount does not mean that the expenditure made by a family is unwise. Reality must play a large part in judging the adequacy of an income or the reasonableness of expenditures."

While a fairly complete resumé has been made of the problems involved in teaching nutrition to the mother, the author realistically points out that "not all of the information included . . . will be used in any one series of lessons, in any one family, in any one community; probably not by any one nurse. There may be no formal nutrition teaching. Most effective work in changing food habits is often done by making appropriate suggestions or asking pertinent questions at the 'right' time. In all phases of nutrition teaching, an appreciation is given for the 'readiness to learn' on the part of the patient or client."

Into the Freezer—and Out. By Donald K. Tressler, Ph.D., food consultant; Clifford F. Evers, research director, Birds Eye-Snider Division, General Foods Corporation; and Lucy Long, General Electric Consumers Institute. New York: The Avi Publishing Company, Inc., 1946. Cloth. Pp. 223. Price $2.50.

This book is written for the average consumer and should be useful to present and future owners of home freezers, the users of rented lockers, and to the locker plant operator for it is a general information book on frozen foods. Much of the material presented is a digest of facts taken from the technical publication, *The Freezing Preservation of Foods*, by Tressler and Evers. It is primarily a "how-to-do" book and pretty well confines itself to the subject at hand.

The authors discuss the history of frozen foods briefly; the benefits of frozen foods from the economic and timesaving standpoint; the variety, types, and construction of freezers and the advantages of each; and they also answer freezing problems. Chapters of interest to special groups include facts on freezing ice cream in the home freezer; preparation, cutting, and freezing of wild game and fish; and the helpful relationship which can be established between the customer and the locker man.

One chapter deals with the nutritional value of frozen foods and contains a brief exposition on overall nutritional requirements of the body. It generalizes, perhaps too much, on the findings of research work done on the nutritional value of frozen foods. However, since this is a book for laymen, the statements made are probably sufficiently useful to be of informative value to the homemaker.

Greatest value will come from application of the directions and instructions given, for this book contains information on planning what foods should be frozen according to available space, the size of the family and its needs, and the supply of foods. Detailed directions are also given on how to select, prepare, and package fruits, vegetables, meats, cooked foods, and pastries for freezing, as well as thawing and heating suggestions. A planting and harvesting guide shows quality of the frozen product, varieties producing the best frozen product, and the characteristics indicating the best time to harvest for freezing. Precooked frozen foods are treated in one chapter which gives instructions and lists cooked foods which can be frozen successfully, as well as those with which there has been little success in freezing to date.

The illustrations show various types of freezers, freezing units, cuts of meat, and steps in preparation for freezing. A few recipes are included.

Sunway BEVERAGE BASE

fortified with Vitamin B_1 and C

available in Orange, Lemon and Lime Flavors

12-Oz. Can Makes 4 Gallons of Beverage

This can when packed contained 7.69 GMS. of VITAMIN C (Ascorbic Acid) and .0649 GMS. VITAMIN B_1 (Thiamine Hydrochloride).

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This provides 100 and 400 per cent respectively of the adult minimum daily requirements for VITAMINS B_1 and C.

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Sunway Beverage Base makes it possible to supply nutritious beverage juices at a moment's notice in hospitals, institutions, etc. A beverage base that furnishes high nutritional values of citrus juices and of ascorbic acid and thiamine hydrochloride . . . at a minimum of expense.

These delicious new dehydrated fruit juice flavors are developed by a new and exclusive process and are ***Easy to Prepare*** — just add water and sweeten.

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SUNWAY Fruit Products

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Current Literature

Contributed by Janet Engebretsen, Janette C. Carlsen, and Ethel M. Miller, Dietary Department, Johns Hopkins Hospital; Lorraine G. Weng, and Marian T. Straube, University of Chicago Clinics; and Marjorie M. McKinley, Women's Educational and Industrial Union, Boston.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES

Vol. 212, September, 1946

*Folic acid (synthetic L. casei factor), an essential panhemotopoietic stimulus. C. A. Doan.—p. 257.

*Effect of doses of thyroxin on goiters, induced by promizole. G. M. Higgins and O. R. Joneson.—p. 295.

*Response to penicillin by a typhoid carrier. N. W. Riser, R. F. Farrington, and B. B. Breese.—p. 331.

Folic Acid. The newest of the subdivisions of the vitamin B family, folic acid or L. casei factor, caused confusion since there were five designations for it. Only $\frac{1}{10}$ oz. was originally obtained from 1 ton of fresh liver; now, synthetic folic acid is available and extensive study is going on. The anti-anemia and growth stimulating properties of folic acid have been stressed. The human body—in the absence of L. casei factor—shows more or less marked inadequacy in bone marrow.

Effect of Thyroxin on Goiters. The thyroid-stimulating effect of iodine-resistant goitrogens is thought to be due to the inability of the thyroid gland to synthesize thyroxine. Rats fed on diets containing 0.5 per cent promizole, the goitrogen, were given 1 to 10 mcg. thyroxin, which did not inhibit the usual untoward effects promizole normally exerts on growth, appearance, and appetite of animals. Another group of rats which were fed promizole showed depressed thyroid activity and development of goiters. A dose of 1 mcg. thyroxin partially prevented thyroid changes; 2 mcg. nullified the effect of promizole.

Penicillin and Typhoid Carriers. Two typhoid carriers were treated with penicillin. One patient had a clear-cut gall bladder infection and responded well to penicillin therapy. The gall bladder type of carrier is apparently the only one which will give a satisfactory response to penicillin. Other carriers only make temporary progress.

THE AMERICAN JOURNAL OF PHYSIOLOGY

Vol. 147, September, 1946

*Studies on the nutritive value of lactose and galactose with the single food choice method. B. Ershoff.—p. 13.

*The influence of thiamin on the action of acetylcholine on muscle. D. P. Sadhu.—p. 233.

Nutritive Value of Lactose and Galactose. The inadequacy of lactose as a dietary carbohydrate for the rat has been reported previously. Dilatation of the cecum, alopecia, early deaths as well as retarded growth have been observed. In this experiment rats were fed on diets consisting solely of (a) lactose; (b) galactose; (c) dextrose; (d) sucrose; (e) butterfat. A control group were fed water alone. Evidence is presented indicating that rats failed to survive on lactose alone due to an inability to hydrolyze this disaccharide in adequate amounts. When products of hydrolysis were fed in place of lactose, survival time was equal to that observed for the dextrose, sucrose, or butterfat series. Galactose was not utilized as a source of calories by the rat.

Influence of Thiamin on the Action of Acetylcholine on Muscle. In these experiments it was found that acetylcholine accelerates onset of fatigue and delays relaxation of skeletal muscle. Thiamin was found to delay the onset of fatigue of a muscle both on Ringer's solution and in Ringer's plus acetylcholine solution. Thiamin in sufficiently high concentraton annuls to various degrees the effect of acetylcholine. However, it will not annul the effect of acetylcholine when the calcium-ion level is too low. Thiamin in high concentration annuls the effect of acetylcholine on the heart.

AMERICAN JOURNAL OF PUBLIC HEALTH

Vol. 36, September, 1946

*Refrigeration in a food control program. H. S. Adams.—p. 1007.

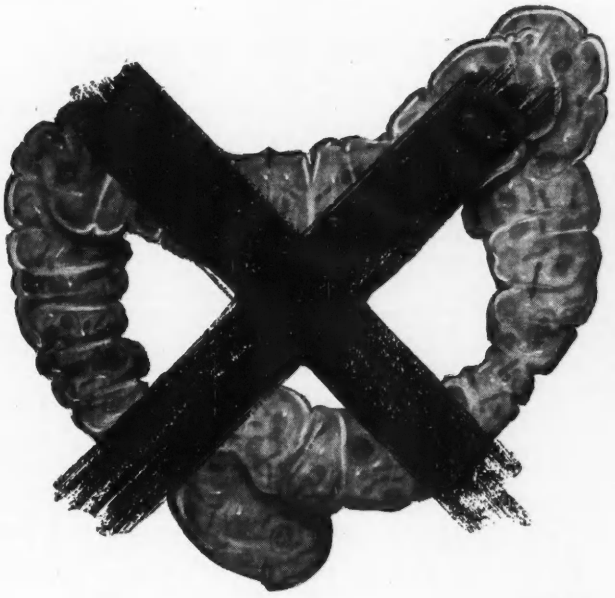
Refrigeration in Food Control. Refrigeration is one of the important and essential factors in the proper care and handling of perishable foods, and therefore, should be operated at its highest standards of efficiency. The correct type of refrigeration should be used for each food, the space should be adequate and the temperature correct for that food storage. Cleanliness is essential. The use of ultraviolet light, especially in meat refrigerators, has beneficial effects as well as limitations. It is effective as inhibitor to microbic growth, reduces air-borne infections, and removes objectionable odors. It has limited effect because it has very little penetrating power so that even very thin films of dirt or moisture may shield microorganisms. Direct radiation is essential to be effective; therefore, meat surfaces in shaded areas do not benefit from the radiation. Direct radiation will also cause rancidity of fats.

ARCHIVES OF INTERNAL MEDICINE

Vol. 78, September, 1946

*Methemoglobinemia. M. Carnick, B. D. Polis, and T. Klein.—p. 296.

Methemoglobinemia. Two cases of methemoglobinemia and their response to ascorbic acid are described. One patient had gastrointestinal symptoms as well as cyanosis. Both cases responded well to the ascorbic acid. In man, methemoglobinemia may be produced by drugs (chlorates,



MARKS THE SPOT

THE colonic region of the gastro-intestinal tract is the "trouble spot" or center of much general debility. Perhaps the most widespread complaint in this region—and most frequently self-treated—is constipation.

The much deprecated "cathartic habit" tends to defeat its aim. Many chronically constipated persons are "suffering from the effects of the habitual use of cathartics and enemas."[1]

THE PHYSIOLOGIC APPROACH

The natural approach to the correction of chronic constipation lies in restoring normal function and habits.

NEO-CULTOL* has been prescribed by physicians for many years, for the smooth, gentle relief of constipation, to help restore normal bowel hygiene. It supplies a readily flourishing strain of *Lactobacillus acidophilus*, to counteract local putrefactive flora and promote development of a normal intestinal flora. The melting point of the refined mineral oil jelly base of NEO-CULTOL is adjusted to afford lubrication and to preclude leakage.

Dosage: One to 2 teaspoonfuls for adults or children upon retiring.

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in a refined mineral oil jelly
Chocolate Flavored
SUPPLIED in jars containing 6 ounces.

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[1]Soper, H. W.: Am. J. Digest. Dis. 11:255 (1944)

aniline dyes, or nitrites); oxidation of hemoglobin to the ferric state with the resultant loss of oxygen-combining power is the clinical picture given. When this condition occurs without medication, the formation of methemoglobin has been attributed to the absorption of toxic products from the intestinal tract. Ascorbic acid is effective as it is a reducing agent and more satisfactory than methylthionine chloride which may increase the concentration of methemoglobin in the blood.

CANADIAN JOURNAL OF PUBLIC HEALTH

Vol. 37, September, 1946

*Nutritional aspects of the Hartman Jones Memorial School health study. R. Crawford, J. Leeson, E. W. McHenry, and W. Mosley.—p. 551.

Nutritional Aspects of School Health Study. A preliminary physical examination of the children at Hartman Jones Memorial School led to the conclusion that nutritional conditions and health conditions generally needed improvement. On basis of physical assessment, 41 per cent of the children had fair or poor nutritional status. Some of the defects could be attributed to undernutrition and some, obviously, could not. Information regarding food habits showed that 30 per cent of the children needed more milk and that most of the children needed a regular, dependable supply of vitamin D. Diets could be improved in these respects without undue expenditure by reducing the amount spent for cake, pastry, candy, and soft drinks.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

Vol. 132, September 21, 1946

*Early failure of breast feeding. An editorial.—p. 151.

Vol. 132, September 28, 1946

*Collateral inhibition of gastrointestinal absorption. An editorial.—p. 217.

Vol. 132, October 5, 1946

*Carotene and vitamin A in the body. An editorial.—p. 287.

Vol. 132, October 12, 1946

Modern concepts of intestinal function. J. A. Bargen.—p. 313.
*The effects of slow starvation. An editorial.—p. 333.

Breast Feeding. A report of work done by Waller in England indicates greater success in lactation in a group of women taught the daily removal of colostrum during the last three months of pregnancy than in a similar untaught group. At the end of six months (postpartum) 83 per cent of the instructed group were carrying on successful breast feeding, while only 42 per cent of the untaught group were likewise feeding their infants successfully from the breast.

Gastrointestinal Absorption. Iron metabolism may be inhibited and the rate of gastrointestinal absorption of iron greatly reduced by subcutaneous inflammatory processes.

Carotene and Vitamin A. Recent observations regarding the transformation of carotene to vitamin A lead the author to question the alleged part played by the liver in this process. The intestinal wall is a possible site for this change.

Starvation. A controlled clinical study on prisoners of war of the Germans is reported. The Russian group of prisoners received 1600 calories per day, with 60 gm. of protein, largely from vegetable sources. The British group had an additional 1000 calories from the Red Cross food, which also furnished 30 gm. of animal protein. Clinical and laboratory studies were done on both groups and a clear picture of the syndrome resulting from chronic starvation established. The report describes the order in which the symptoms generally appear.

THE JOURNAL OF NUTRITION

Vol. 32, September 10, 1946

*The retention of nutritients in cheese making. E. V. Evans, O. R. Irving, and L. R. Bryant.—p. 227.
*Reproductivity and growth of albino rats on a prolonged intake of caffeine. G. Bachmann, F. Haldi, W. Wynn, and E. Ensor.—p. 239.
*Metabolism of women during the reproductive cycle. VIII. The utilization of thiamine during lactation. C. Roderick, H. H. Williams, and I. G. Macy.—p. 249.
*Metabolism of women during the reproductive cycle. IX. The utilization of riboflavin during lactation. C. Roderick, M. N. Coryell, H. H. Williams, and I. G. Macy.—p. 267.
*Nutritive value of the protein of varieties of legumes and the effect of methionine supplementation. W. C. Russell, M. W. Taylor, T. G. Mehrof, and R. R. Hirsch.—p. 313.
*Evidence of citric acid synthesis in human subjects. J. E. Strom and M. L. Hathaway.—p. 337.

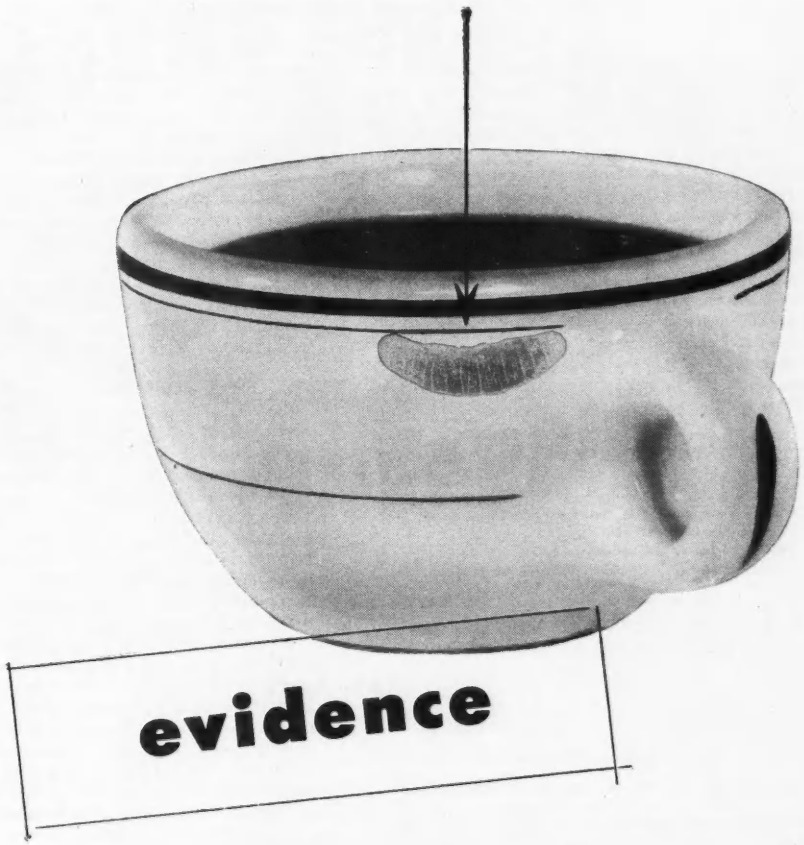
Thiamine in Cheddar Cheese. The fate of thiamine in the manufacture of Cheddar cheese and the effect of ripening periods has been studied at four two-month intervals covering the spring, summer, and fall seasons. Both raw and pasteurized milk was used in two different methods of making cheese and both processes showed little or no loss of thiamine. The process of cheese manufacture caused no actual destruction of thiamine. The average retention of thiamine in the cheese was 8.8 per cent. A progressive decrease in thiamine content of the cheese was observed with increased ripening period.

Effect of Caffeine on Reproductivity and Growth. Albino rats were given a sweetened caffeine beverage as sole source of fluid throughout their reproductive period. The average daily consumption of caffeine by each animal amounted to 40–50 mg. per kg. body weight. The reproductive capacity was not impaired; no pathological changes above those occurring naturally were noted; and the rate of growth was the same as that of the controls.

Utilization of Thiamine During Lactation. To analyze thiamine metabolism during the reproductive cycle, the thiamine intake for five-day periods was recorded. The thiamine secretion in milk and daily excretion in urine were determined for normal multiparas during the first 10 days postpartum and at intervals in mature milk production. The dietary intake of the mothers were comparable, qualitatively, but quantity was determined by appetite with the average intake of 1.1 mg. thiamine per day; the highest secretion of thiamine in milk was reached two to three months postpartum; thiamine in the milk averaged only 8 per cent of the intake. An average of 23 per cent of thiamine intake appeared in the urine.

Utilization of Riboflavin During Lactation. Riboflavin is required in increased amounts for tissue regeneration and for accelerated metabolic activity. The average daily intakes of riboflavin of the healthy nursing mothers was 3.1 mg. per day. During the first 10 days postpartum, riboflavin secretion in milk increased with milk production. For the same women, the relationship of volume and riboflavin content continued during the periods of mature milk production. The average daily secretion in mature milk was 0.29 mg.

Protein of Legume Varieties. The addition of 0.1 per cent methionine to the basal diet of rats, caused an immediate growth response and increase in the gain per gram of protein consumed for all varieties of Lima beans, snap beans and peas, as well as for soybeans and chick peas. With this supplement, differences in the nutritive value of the protein of these varieties became apparent. When the level of methionine was raised to 0.6 per cent, there was a further growth response and gain per gram of protein consumed. Of the 18 varieties of legumes tested, only the protein of the King of the Garden variety of Lima beans, when supplemented with methionine, promoted average daily gains and gains per gram of protein consumed of the same order as



that the entire cup is covered
with dangerous washing film

Lipstick always indicates dangerously inefficient dishwashing...but its absence is no guarantee that your washing procedure is safe. Strong alkalis may clean off lipstick but they never remove washing film. There's the real danger—in that less obvious coating which so frequently harbors germs, odors, and rancid tastes.

Calgonite can help you avoid that danger. Dishes washed with Calgonite not only look cleaner but really are immaculate. It contains a full 40% of Calgon (sodium phosphate glass)—and Calgon makes water 100% soft, stimulates alkaline cleansing to vigorous activity, prevents scum and scale, and eliminates washing film—even removing previously accumulated coatings of it. Test Calgonite against any competitive product. Compare it with other washing compounds on the only true cost basis...not price per pound, but the actual cost of getting clean dishes. You'll see that a Calgon* product is modern science's most economical answer to efficient dishwashing. Write for the free Calgonite booklet containing complete instructions for better dishwashing. Calgon, Inc., a subsidiary of Hagan Corp., Hagan Bldg., Pittsburgh 30, Pa.

WASH MORE DISHES—CLEANER
use Calgonite
IT CONTAINS 40% CALGON

CALGONITE* for mechanical dishwashing. CALADE* for hand dishwashing. CALGOLAC* the sudsless cleanser for bar glassware. NOCA* all-purpose kitchen cleanser for hand use. **Reg.U.S.Pat.Off.*

those obtained with soybeans supplemented with methionine and with dried whole beef. The nutritive value of the protein of chick peas is almost as high as that of soybeans. The methionine content of the legumes did not have a direct relationship to nutritive value of the proteins.

Citric Acid Synthesis in Human Subjects. It is known that citric acid is synthesized in the animal body and it is believed, in humans also. In three normal women, a daily citrate excretion of 300 to 500 mg. was found on both the synthetic diet free from citrates and natural food diets with approximately 797 mg. citric acid per day. Variations in citrate excretion were found to bear a definite relationship to the phases of the menstrual cycle. No variation of citrate excretion was noted when test doses of 400 mg. of ascorbic acid were given. Synthesis by the tissues is believed to be the explanation for the relatively large amounts of endogenous citric acid.

THE LANCET

Vol. 2, August 17, 1946

*Casein hydrolysate—A supplementary food for premature infants. J. E. Jorpes, J. H. Magnusson, A. Wretlind.—p. 228.

*Food for the premature baby. Editorial.—p. 240.

*Nutritional retrobulbar neuritis: Nutritional optic neuropathy. D. F. Moore.—p. 246.

Vol. 2, August 24, 1946

*Vitamin A and skin disease. Z. A. Leitner and T. Moore.—p. 262.

Vol. 2, September 7, 1946

*Pyridoxine (vitamin B_6) in epilepsy. J. T. Fox and G. M. Tullidge.—p. 345.

Vol. 2, September 14, 1946

*Painful feet in prisoners of war in the Far East. E. K. Cruickshank.—p. 369.

*Folic acid in the treatment of megaloblastic anemia.—L. S. P. Davidson and R. H. Girdwood.—p. 373.

Casein Hydrolysate. Because the nutrition of a premature infant is a complicated problem and since theoretically proteins are of the utmost importance for the nutrition of the premature infant, the following feeding plan was devised. A mixture of amino acids, an enzymatic casein hydrolysate, was fed as a supplement to breast milk to more than 100 premature infants. The daily dose was 2.5 gm. of amino acids per kg. of body weight, together with an equal amount of glucose. The infants tolerated the amino acid mixture well, and there were no signs of digestive disturbance. In every instance the feeding of this mixture produced a distinctly higher gain in weight than breast milk alone. A comparison between the effects of this mixture and of a mixture containing undigested casein, glucose, and salts in the same strengths and proportions showed that the gain in weight was consistently greater during the periods when the infants were receiving amino acids than when casein was being administered. By special tests, it was demonstrated that the gain in weight was due to the amino acids.

Food for the Premature Baby. This editorial discusses the problem of feeding a premature baby so that it will gain weight at the same rate it would have gained *in utero*. The results of other workers' experiments are discussed. The conclusion reached is that evidently a high protein intake is needed.

Nutritional Retrobulbar Neuritis. Retrobulbar neuritis was one of the most common nutritional diseases affecting prisoners of war and internees in the Far East. Prisoners of war were confined in two main areas. In the area in which the main source of carbohydrate was unpolished rice, the nutritional retrobulbar neuritis was less common than in the area where polished rice of poor quality constituted a main portion of the diet. A review of the literature reveals that the "dimness of vision" may be a result of a deficiency of the whole B-complex rather than a single vitamin deficiency. It was generally accepted that there was no real shortage of vitamins A and C in the diet of the internees.

Vitamin A and Skin Disease. This paper gives the results of a study undertaken to determine the significance of vitamin A plasma levels in patients being treated for various skin diseases. The patients studied were patients with common skin diseases such as eczema, pityriasis rosea, and psoriasis, and patients with rare skin diseases, such as Darier's disease and pityriasis rubra pilaris. To serve as controls, healthy subjects or patients suffering from accident, fracture, arthritis, varicose veins, hernia, or hemorrhoids were used. The plasma levels for both the carotenoids and vitamin A were determined. The levels obtained gave no support to the theory that vitamin A deficiency is of general significance in common types of skin disease, and only limited support was found for the theory that secondary deficiency of vitamin A may be of some significance in certain rare skin diseases.

Pyridoxine in Epilepsy. In a previous group of experiments it had been demonstrated that epileptic fits in pigs and rats could be prevented or stopped by the addition of pure pyridoxine to the diet. To test this observation in humans, eight school boys, ages 14 and 15, were selected. Two had petit mal only; two had petit mal with occasional grand mal; two, petit mal with more frequent grand mal; and two, more numerous fits of varying type. All showed a regularity of the fits, and previous anticonvulsant medicine was continued throughout the experiment. A 20-mg. dose of pyridoxine daily was used at first, but when it became apparent that there was no change in incidence of the fits, it was increased to 100 mg. There was no evidence of increase or decrease of fits in any case, nor was any other change, mental or physical, noted in any of the boys.

Painful Feet. A syndrome in which aching and stabbing pains in the feet were the chief features was observed among British and Australian prisoners of war in Japanese camps after six months on a diet low in B-complex and first class protein, but adequate in total calories. When the diet was increased in protein and the B-complex, particularly thiamin and niacin, fresh cases ceased to appear and the patients gradually recovered after a few months. The syndrome had almost completely disappeared before there was any increase in the riboflavin intake.

Crystalline thiamin given intravenously in a few cases produced no improvement but intravenous treatment with niacin brought about much improvement in 68.8 per cent of the cases in which it was used. No other pure vitamin of the B-complex was available for trial. It was felt that a deficiency of niacin is an important factor in the production of this syndrome.

Folic Acid in the Treatment of Anemia. The case histories and response of six cases of refractory megaloblastic anemia to folic acid are reviewed. In all cases the bone marrow was transformed from a megaloblastic to a normoblastic state. The variations in response of individual cases of pernicious anemia to treatment with a standard amount of a patent preparation of liver make it impossible to define the optimal daily dose of folic acid.

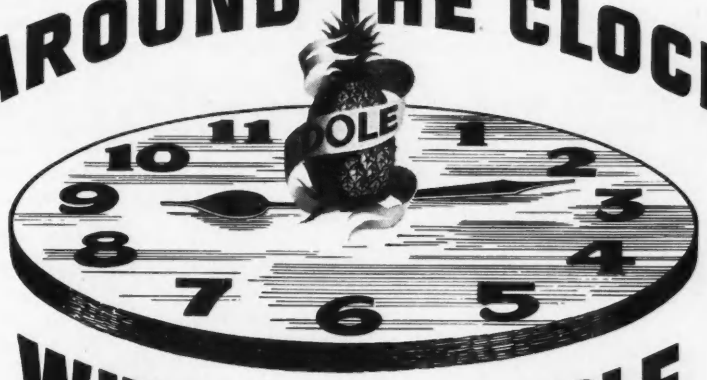
THE NEW ENGLAND JOURNAL OF MEDICINE

Vol. 235, September 26, 1946

*Clinical malnutrition in Italy in 1945. J. Metcoff and A. J. McQueeney.—p. 451.

Malnutrition in Italy. A simple, rapid nutrition survey procedure which depended on clinical examination of physiologic stress groups, consistent sampling, and standardized recording was used to gather information on malnutrition in

AROUND THE CLOCK WITH PINEAPPLE



Have you ever stopped to think that there's a place for a Dole Pineapple Product—Sliced, Crushed, Chunks, or Juice—in any meal of the day? For example—

BREAKFAST

To start the day, there's pleasing zest in a cool glass of Dole Pineapple Juice. Or, if a breakfast fruit is preferred, serve Sliced or Chunks. And with ham, sausage, or bacon, sauteed Slices or Chunks are an appetizing accompaniment.

LUNCH

Here is where Dole Sliced or Chunks can be used in a salad plate with lettuce, and any of the following—cottage cheese, shrimps, tuna, avocados, cole slaw, or other fruits, fresh or cooked.

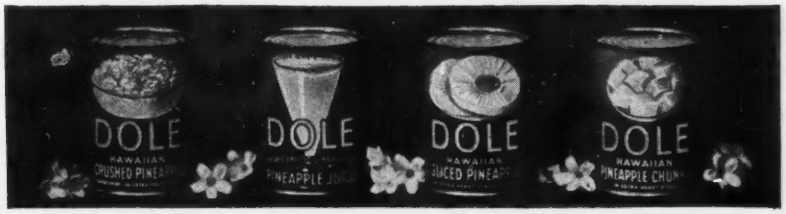
DINNER

At this meal, Dole Crushed or Chunks can appear in fruit cup; Chunks or Sliced in cakes; Crushed in puddings, pies, gelatin salads and desserts, or as a topping for ice cream.

If, in your professional activities, you'd like more suggestions and recipes for using Dole Pineapple Products "round the clock," write me at the Hawaiian Pineapple Company, Ltd., 215 Market Street, San Francisco, California.

Patricia Collier

DOLE HOME ECONOMIST



Italy during 1945. Thirty-five such surveys were performed. From data on 3109 pregnant or nursing mothers and children of refugee, institutionalized, school, and population-at-large groups it was suggested that gross malnutrition was infrequent and that rickets was the only big nutritional problem. There was no conclusive evidence that wartime food shortage constituted a major health problem.

NUTRITION REVIEWS

Vol. 4, August, 1946

*The expanding opportunity of the science of nutrition. H. C. Sherman.—p. 225.
Niacin content of foods.—p. 233.
Nutritive value of the proteins and oil in tobacco seed.—p. 242.

Opportunities in Nutrition. The science of nutrition has grown rapidly since the turn of the century. Today, the science of nutrition is interested not only in the cure and prevention of the diseases of malnutrition, but also in the building of a higher kind of health and efficiency for all. The general concepts and methods used in the past should be broadened to advance the liberating concept of flexibility and improvability of body processes and nutritional life histories. More comprehensive and more searchingly quantitative investigations of complete life histories and records of experimental families through successive generations is recommended to determine if further increments of intake will improve the long-run record of nutritional well-being.

SOUTHERN MEDICAL JOURNAL

Vol. 39, September, 1946

*The management of diabetes mellitus during pregnancy. H. T. Englehardt and J. P. Melvin.—p. 734.

Diabetes Mellitus in Pregnancy. Though there has been a marked decrease in maternal mortality since the introduction of insulin, the fetal mortality has remained consistently high. In the group studied, diabetes had existed for an average of 3.6 years and the average age was 32.5 years. The maternal mortality was 4.3 per cent while the fetal mortality was 47 per cent. The physiologic changes in carbohydrate tolerance and the comparative change in insulin requirement are discussed. The dietary treatment is compared with that of a nondiabetic, with the conclusion that the diet varies only in more unimportant aspects.

BAKERS' HELPER

Vol. 86, August 24, 1946

ARBA statement to price decontrol board.—p. 53.
*Kinds of insects found in a bakery. E. L. Holmes.—p. 54.
Bakeries are good outlets for ice cream. G. Bricker.—p. 56.
Selling trends in sweet goods.—p. 65.
*Turnovers made easy. W. E. Broeg.—p. 92.
Better cookies for better profits. R. Thelen.—p. 94.
Conversion guides for bakers. H. F. Schudlick.—p. 100.

Vol. 86, September 7, 1946

The baking industry wants a public relations program.—p. 32.
*How to control stales. C. C. Swearingen.—p. 34.
*Good bakery housekeeping depends on constant vigilance.—p. 36.
*Points to weigh in buying flour. O. Skovolt.—p. 38.
What I prefer in flour. W. E. Broeg.—p. 40.
*Baking quality—final criterion when purchasing flour. C. J. Patterson.—p. 46.
*Practical hints for storing flour. F. P. Graw.—p. 50.
Late Washington news. L. Sullivan.—p. 53.
*Soy flour in the baker's products. W. E. Broeg.—p. 54.

Bakery Insects. This is the first of two articles dealing with the insects that are a problem for the baker. The successful control of all pests requires a knowledge of their variety, reproduction, environment, and living habits. More that 11 types of insects are discussed and suggestions are given for controlling them.

Turnovers Made Easy. A description is given of a simplified method for the use of a mechanical roller to make turnovers, devised for use by inexperienced individuals. Included in additional notes is information regarding the type of dough, equipment, and size of the product. Some of the specialty turnovers suggested were made with sausage, chopped meat, chili con carne, chili tamale, or pork and bean fillings.

Controlling Stale Returns. Rules are given to help keep stale returns at a minimum. Be sure your goods are of the best quality. Limit your varieties and amounts of those produced. Employ good advertising. Keep records of seasons and days of special demands and drop-offs.

Good Bakery Housekeeping. If cockroaches are known to be present, inspection is necessary once a week, otherwise once a month is sufficient. Gas is used to reach roaches in spaces beneath small cracks. Cracks are then sealed. Cleanliness is imperative. Trucks should be thoroughly cleaned before and after each use.

Points to Consider in Buying Flour. Type of loaf to be made, equipment to be used, facilities for fermenting, and controls used should be considered before choosing a flour. The strongest flour available is the most suitable for most bread at the present time. A uniform flour is desirable; however, bleaching and maturing may alter uniformity. It should be free from contamination.

Baking Quality of Flour. Extraction, protein content, and ash analysis are the usual considerations when buying flour. However, the best criterion of a flour's worth is its performance in the bake shop. The quality of the protein may be analyzed by using the recording dough mixers. The ash content indicates the degree of extraction. It is stated that the 1946 wheat crop is poor.

Storing Flour. Improper storage of flour may cause acidity, loss of baking strength, mustiness, lumping, mold, infestation by vermin, and bad odors. Practical hints for storage are given. Keep a small flour inventory. Be sure to use the old flour first. If flour must be stored in a room where other odors are prevalent, use fans and keep it as far away as possible. Pile sacks on small skids, easily movable and easily stacked when not in use. If these are built 6 to 8 in. from the floor, there is better control of rodents. Space between each row allows for circulation and room to walk.

Soy Flour. Soy flour in baker's products adds much to their nutritional value. Soy is high in a type of vegetable protein which is similar to animal protein, containing 10 of the essential amino acids. Nowadays quality is not impaired by the use of soy products. Bakers would be wise to take advantage of the nutrition consciousness of the public by making more products with soy.

BETTER FOOD

Vol. 52, September, 1946

*Vitamin B_1 and learning. H. D. Darby.—p. 28.
*Meet the steam oven.—p. 31.
*Citrus in the American dietary.—p. 34.
*A model community nutrition service. V. Sargent, J. Eastman, and E. Caso.—p. 36.
How many ways to make coffee?—p. 42.
*Color in vegetables. I. Chlorophyll.—p. 48.
A glossary of cooking terms. F. N. Schroeder.—p. 50.

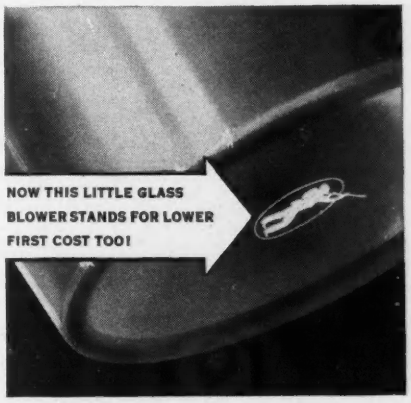
Meet the new Lightweight Champ

YES, the champ's in your corner, and it's the toughest thing in lightweight glass. These Corning Double-Tough tumblers are gracefully thin, light, and sparkling clear. And they are *more than twice as tough* as ordinary everyday tumblers.

If you'd like to say goodbye to those big thick heavyweights and forget the breakage costs that go with delicate ordinary featherweights, give Double-Tough Tumblers a real trial. One thing you can count on—besides neat, attractive customer appeal—is a 50% cut in your tumbler breakage bill. And many users claim even greater savings!

The new low prices on Double-Tough Tumblers start you off with a saving. You save again and again as they last and last! Place your order *now* for quick delivery.

See your Double-Tough Distributor today!



CONSUMER PRODUCTS DIVISION, CORNING GLASS WORKS, CORNING, N.Y.

CORNING means Research in Glass

Corning double-Tough Tumblers

*Effective teaching. XII. School is the place to improve food habits. M. A. Banks.—p. 52.
*The new school lunch program. K. C. Wisely.—p. 54.

Thiamin and Learning. An experimental group of children on a daily intake of 2.9 mg. of thiamin for a year showed a great increase in learning over the control group taking 0.9 mg. thiamin per day. This superior group also showed an improvement in hearing. These findings indicate the need for a high thiamin level for school children in the future.

Steam Oven. A newly developed steam oven cooks food which requires moist heat, preserves natural color and natural flavor in vegetables, and is valuable for defrosting and cooking quick frozen foods. This automatically controlled oven, with temperatures not exceeding 218° F., is designed to be either a part of the gas range, or a completely separate unit.

Citrus in the Dietary. The U. S. per capita consumption of citrus is far ahead of any other country. In the U. S. the widespread citrus orchards assure a continuous crop. Much has been done to increase the vitamin C content of oranges and also to help retain it in the processing of juice. Citrus fruits are still the best source of vitamin C as well as of appreciable amounts of thiamin, riboflavin, vitamin A; in addition, they contribute an alkaline residue to the diet. If orange juice is squeezed with a glass reamer and kept in a covered glass jar in a cold room, it retains its flavor and its vitamin C content for 48 hr. with little if any loss.

Community Nutrition Service. In Newton, Massachusetts, a suburb of Boston, two full-time nutritionists are employed; financial aid is provided by civic organizations such as the American Red Cross, the Community Chest, and the local Health Department. A nutrition education program is developed in the schools. Certain major projects are publicized in the papers, on the radio, and posters and exhibits are displayed. A monthly appointment calendar of the nutrition center is included showing the type of program followed.

Chlorophyll in Vegetables. Green vegetables should be cooked quickly in a large quantity of boiling water in an uncovered pan. A pressure saucepan is the ideal way to cook green vegetables from the standpoint of flavor, nutrient retention, and color. Steaming is not recommended. Soda saves the color but destroys the flavor and thiamin.

Effective Teaching. The school is the place to improve food habits. This is best done by example. Projects that result in the preparation and eating of a variety of foods can develop favorable attitudes toward and a liking for the nutritive foods.

School Lunch Program. Administration of the new permanent National School Lunch Act is described in detail. Allocation of funds and rates of reimbursement are explained. Type A, B, and C lunches are defined. Schools for pupils from five to 17 years inclusive will continue to be eligible for enrollment in this program. State agencies, usually the State Department of Education, will administer the program.

CHAIN STORE AGE

Vol. 22, September, 1946

*Promoting accident prevention with monthly meetings. L. Snyder.—p. 11.
Doubling the flow of goods through a warehouse. E. L. Paxton.—p. 12.
*Top efficiency for lighting. V. G. Kling.—p. 14.
Warehouse control system for high turnover. E. L. Heine.—p. 17.
*How we apply training fundamentals. H. N. Pence.—p. 19.

Accident Prevention. One company's accident prevention program was brought to its present state of efficiency by teaching and preaching; follow-up; and elimination of accident hazards. Monthly safety meetings of the managerial staff and follow-up periods represent hours of unceasing effort to maintain interest in this important goal. All accidents occurring during the month are carefully reviewed at the following meeting. A variety of methods are used to keep safety always in the employees' minds. A noticeable money saving and an increase in employee morale are realized as a result of this program.

Lighting. Improper or insufficient maintenance can cause a lighting system to lose up to 75 per cent of its efficiency. Air conditioning may reduce necessary cleaning periods. Walls and ceilings need cleaning and painting to insure a high reflection factor. Suggestions for a lighting program are given.

Training Fundamentals. An effective training program for an organization too small to maintain an expensive training department is described. Store supervisors take two basic methods courses; store sales clinics were introduced; and follow-up checks are common. The methods courses include job instruction training and human relations training. Sales clinics are held in the department where the merchandise is sold.

CONSUMER'S GUIDE

Vol. 13, September, 1946

*A generation of American food.—p. 9.
*The school lunch bell rings again.—p. 12.

Food in the United States. America ate better during the war than it has in the past 37 years. The Bureau of Human Nutrition and the Bureau of Agricultural Economics have analyzed the nation's food supply from 1909 to 1945. During the war we have eaten more eggs, milk, meat, poultry, vegetables, fruits, and enriched bread. Consumption was higher for all the nutrients except protein. Total calories went down but they are still more than sufficient.

School Lunch. The new National School Lunch Act provides opportunity to build a stronger lunch system. The law does not in itself appropriate money for the school lunch expenditures but it does authorize such appropriations. There is no limit on the amount that can be appropriated for food. However, only $10 million is allowed to be spent on equipment. The equipment must be approved in advance. Congress has appropriated $75 million for food during the coming year. The state must develop its own school lunch program and then must spend a dollar for every dollar it receives from the federal government. The law says that no child shall be discriminated against for inability to pay.

FOOD INDUSTRIES

Vol. 18, September, 1946

*Stored frozen stock produces better preserves. H. R. Thompson, S. R. Cecil, and J. G. Woodroof.—p. 73.
Sugar—a Philippine dilemma. H. Leopold.—p. 76.
*Improved paper container for bulk shortening. F. L. Toof.—p. 78.
*Packing plant sanitation calls for good housekeeping. M. L. Laing and J. P. Barrett.—p. 86.
*Portable container used for shipment of frozen food. J. V. Ziemba.—p. 90.
*What are the potentialities of new films and foils. F. I. Hanmer, Jr.—p. 97.
Shortage of fats and oils.—p. 117.
*Sanitation.—p. 197.

Better Preserves. Manufacturers of preserves are confronted with the problem of whether to store the raw products to be used during a full manufacturing year, or to store the finished product, thus limiting the production period. Freshly frozen fruits are more desirable than fruit that has been processed and then stored. Recipes, graphs, and tables supplement this article.

HOTELS, HOSPITALS, RESTAURANTS *and* FOUNTAINS
HAVE USED AND APPROVED *Purest* BRAND

"The Finest Ready-to-Serve ORANGE JUICE On the Market"

No other orange juice can meet the specifications of Purest Brand Condensed Frozen Orange Juice, because it is so fresh in flavor and aroma, so convenient and easy to use, and always standard in flavor, body and color. Always available, it retains the nutritional and vitamin values of the best of fresh fruit indefinitely, and . . . it is actually less expensive than fresh fruit squeezed in your kitchens!

Normal freshly squeezed orange juice is surpassed by Purest Brand because only the finest oranges, selected at the height of the season, picked at their grove-ripened prime, are immediately extracted, condensed, standardized, and frozen. Purest Brand is *homogenized* to delay separation while waiting to be dispensed. The citrus sugars, minerals and acids are *standardized* by condensing. *Condensed* orange juice means no waiting to thaw from the frozen state, makes it so easy to serve, and cuts shipping and storage to one-fourth!

Contrary to heat, which may damage flavor and nutritional value, *medium quick-freezing* preserves the original superb flavor and maintains intact the natural Vitamin C. To protect the juice from the oxidizing effect of air, and to keep it from harmful light, Purest Brand Condensed Frozen Orange Juice is *vacuum packed*. Cans are used for economy and to insure safe handling.

Purest BRAND CONDENSED FROZEN ORANGE JUICE

TASTE IT . . . TEST IT

Try a deliciously chilled drink of this new better orange juice for yourself. Compare Purest Brand with any other orange juice, fresh or ready-to-serve. Write today for your sample, prices and analyses.

FLORIDA FRUIT PRODUCTS COMPANY
CLEARWATER, FLORIDA
Santa Ana, Calif. New York, N. Y. Chicago, Ill.

Improved Paper Containers. The recent war brought restrictions of packaging materials. This prompted the producers of shortening to investigate the available resources to discover a suitable container for their product. The development and facts about the future use of the paper cartons, in which shortening is now delivered, are discussed.

Packing Plant Sanitation. Construction and design play important parts in maintaining meat packing plants in a clean and sanitary state. Frequent and thorough clean-ups are necessary during each day. The volume of equipment handled, available manpower, and general economies of the operation must be considered in setting up a sanitizing program. To protect the meat from spoilage during processing, cooling, and curing, it is important to work rapidly and carefully in a clean area. The control of insects and rodents can be accomplished by cleanliness, chemical agents, and proper architectural features.

Portable Container for Frozen Food. A portable container for shipment of frozen foods to small buyers has been developed. Products shipped in the containers, which have a net capacity of 10 cu. ft., remain in a frozen state from one to five days or more. Tests have been made to determine the suitability of these containers for shipment of frozen fish fillets and frozen meats. The results were very satisfactory, both in the condition of the foods when they were examined and the small amount of dry ice that was used during the test periods.

Films and Foils. New films and foils are being designed to provide more functional and protective properties along with beauty and sales appeal. Experiments with natural and synthetic materials are in progress to find the most adaptable material for foods that are sold in package form. The synthetic resin films often present a problem of sealing. One of the newest plastics is polyethylene. The thin foil of pure aluminum is expected to be used widely. Cellophane will continue to be in demand. Waxed paper will continue to be one of the economy wrappers. Plastic coated papers have been produced which are waterproof, greaseproof, and capable of being heat sealed. Pliofilm has been widely used.

Sanitation by Bacterial Control. This is a digest of an article from the June issue of *Refrigeration Engineering*, titled "The Control of Microorganisms in Food Storage Rooms" by W. L. Mallmann and E. S. Churchill. Tests to determine the value of germicidal lamps to control microorganisms are described. Propylene glycol was tested for controlling molds and bacteria common to cold storage rooms. The bacteriostatic and bactericidal value of CO_2 as a supplement to refrigeration for preservation of food products was tested.

HOTEL MANAGEMENT

Vol. 50, September, 1946

*Maintenance hints for control and economy. W. C. Hyer.—p. 54.
*A timely sanitation check list.—p. 76.
How to prevent hotel fires. H. E. Bilken.—p. 88.
Profit plates. A. Easton.—p. 122.
Good food hints. L. P. DeGouy.—p. 130.

Maintenance. A check list is given for boiler room maintenance, general maintenance (this includes doors, elevators, and fire fighting equipment), kitchen maintenance, refrigeration and air conditioning maintenance, roof maintenance, room maintenance, and laundry maintenance. Frequency of maintenance attention is indicated. It is believed that a calendar of this type is a prerequisite for economical and efficient operation of any hotel.

Sanitation Check List. Through the courtesy of New York City's Public Health Department a very complete check list for a food service unit is given.

HOTEL MONTHLY

Vol. 54, August, 1946

*How cooks are trained in Switzerland.—p. 20.
Light for service and decoration. H. J. Chanon.—p. 26.
*Are you making changes in your dishwashing department? A. Kraus.—p. 38.
*How to train department heads to supervise employees. P. Mertz.—p. 53.

Training Cooks in Switzerland. Graduates of Switzerland's hotel trade school are welcomed throughout the world, because they are considered to have the finest and most advanced training in culinary art. One school in particular, Montana Lucerne, is described. Formerly Hotel Montana, it was bought by Union Helvetia, labor organization of Swiss hotel employees, and is supported also by the government and many hotel owners who expect to employ its graduates. The varied course includes languages and bookkeeping. Students follow through on all the steps of a meal, from cooking to serving. They live at the hotel and learn to know the business from all angles.

Dishwashing Department Changes. An outmoded dishwashing unit is trouble to the engineering department and expense to catering. Suggestions for improvement are made. Soil pipes hung from sub-basement ceilings are easy to clean. Valves should be in easy reach. This avoids over-use of hot water and steam which can be staggering expense items. Hoods over the machine, connected with the main blower system, provide adequate ventilation and eliminate condensation.

Training Department Heads. Efficient employees are not necessarily good supervisors. The technique of teaching is needed. Teaching should be in steps. Then the employee should be allowed to work under supervision and any mistakes corrected at once. Supervisors should know jobs thoroughly, should appreciate the house policy, and should be on the watch for ways of improving jobs under them.

ICE CREAM TRADE JOURNAL

Vol. 42, August, 1946

Ice cream industry awaits price action. V. M. Rabuffo.—p. 30.
*"International" fights sale of ice cream by weight.—p. 32.
Principles of ice cream making. P. H. Tracy.—p. 62.

Ice Cream by Weight. With some states making vigorous efforts to compel the sale of ice cream by weight, the International Association of Ice Cream Manufacturers is planning to resist such attempts. One reason is that butterfat, the most expensive ingredient of ice cream, is the lightest ingredient in weight. Other factors being equal, a low butterfat ice cream will weigh more than a high butterfat ice cream. Flavor affects the weight of ice cream since different amounts of the different flavorings must be used. The sweetening of ice cream, although one of the cheapest ingredients, is one of the heaviest. It is impractical to sell individual servings of ice cream by weight, and if both individual servings and bulk ice cream were sold it would necessitate using different methods of sale for the same product.

THE NATION'S SCHOOLS

Vol. 38, September, 1946

What about free teaching aids?—p. 45.
*Cost isn't everything. M. H. McCaughan.—p. 56.
Care of mops. L. Evans.—p. 66.

Cost Isn't Everything. The Wilmington, Delaware, building committee in 1942 initiated a program to expand the

Post Scripts ... by Bob Dall

SABOTAGE CAN BEGIN AT BREAKFAST

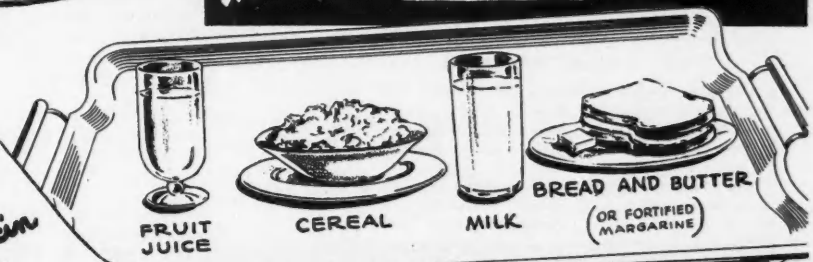
STARTED DAY WITH TOO-LITTLE BREAKFAST... ENERGY SAGS-WORK LAGS

STARVED BY NOON- EATS TOO-BIG LUNCH STUFFED FULL- DOPEY AND DULL

MORAL! START DAY WITH AN ADEQUATE BREAKFAST!

MEMO

Every Post Cereal is either WHOLE GRAIN or restored to WHOLE GRAIN VALUES in the important nutrients iron, niacin and thiamine



START TOMORROW OFF RIGHT WITH

POST'S CORN TOASTIES

OVEN-FRESH FLAVOR! TENDER-CRISP FLAKES!

A GENEROUS BOWLFUL * OF

POST'S CORN TOASTIES

WITH MILK AND SUGAR SUPPLIES THE FOLLOWING:

	PROTEIN	CALCIUM	IRON	THIAMINE	NIACIN
AMOUNTS	6.4 G.	135 MG.	0.70MG.	0.19 MG.	0.57MG.
% OF ADULT MINIMUM DAILY NEEDS	9% **	18%	7%	19%	3.8% **

(199 CALORIES)

PRODUCTS OF GENERAL FOODS

* POST'S CORN TOASTIES (1 OZ.), MILK (4 OZ.), SUGAR (1 TSP.)

** PROTEIN BASED ON 70 GRAMS; NIACIN BASED ON 15 MG.

school lunch service to meet the urgent needs of wartime feeding. Kitchens and dining rooms were installed in small unused rooms in the school buildings, and were equipped with borrowed stoves, sinks, refrigerators, and tables. Since this lunch service began, attendance has improved, and better food and health habits have developed among the students. Costly outlay was proved to be unnecessary for a lunch program which must function in all schools.

PERSONNEL JOURNAL

Vol. 25, September, 1946

Mature labor leaders. B. Selekman.—p. 87.
*How to use personnel tests. R. S. Schultz.—p. 94.
Objective attitudes in collective bargaining. W. V. Owen.—p. 100.
Status of a counselor. S. H. Kovach.—p. 106.
The physically handicapped worker in industry. G. Brighouse.—p. 11.

How to Use Personnel Tests. The scientific foundation of personnel testing has been cautiously and meticulously developed during about 70 years. This technique is the one scientific tool of human relations. Tests available for use are discussed, and a practical minimum testing program for any organization is proposed. A testing program should be based on a sound scientific procedure: (a) the objective must be defined; (b) a job analysis must be made; (c) sound measures of relative success of job performance must be established; (d) the test should be adapted and constructed to suit the specific job requirements of the company; (e) results of tests should be studied before they are reused; (f) tests which are most suitable should be determined; (g) test results should be checked on other groups of applicants or employees other than those used originally in determining the value of the tests; and (h) a testing program must be maintained properly by regular checking and improving.

RESTAURANT MANAGEMENT

Vol. 59, August, 1946

Good food hints. L. P. DeGouy.—p. 22.
Money making methods. F. Searing.—p. 29.
*Modern luncheonette management. E. M. Fleischman.—p. 31.
*A Chinese caterer who built his business on the take-home and delivery basis. R. K. Gidley.—p. 36.
Thirty-three simple safeguards against electrical fires. E. W. Fair.—p. 39.
*Basic principles of quantity cookery. A. Easton.—p. 40.
How we train our staff. R. G. Jahrling.—p. 42.
Making a small, compact diner modern and up-to-date. H. Flint.—p. 44.

Vol. 59, September, 1946

*Modern luncheonette management. E. M. Fleishman.—p. 27.
A portfolio of drive-in and luncheonette plans.—p. 32.
Serving mobile meals on the spot. F. Wittner.—p. 41.
Building a profitable sideline business. V. Love.—p. 43.
*Principles of quantity cookery. A. Easton.—p. 44.

Modern Luncheonette Management. This article provides suggestions for selecting the location for a luncheonette and points to consider in regard to leases. The L-shaped store, fitted around a corner store, was recommended because rent may be lower than for the corner location, cross ventilation is provided, and it is easy to plan an efficient layout of equipment for this shaped store. All operations should be concentrated on one floor. Before the lease is signed the advice of a lawyer should be obtained. If careful consideration has been given the choice of location, a minimum lease of from three to five years should be secured with an option of three to five more years. Rentals are often established on the basis of a fixed minimum and a percentage of average rental above a fixed amount of business. Some points which should be covered in the lease are hot water, heating, electricity, refuse and garbage disposal, use of signs, use of toilets or dressing rooms in the other parts of the building.

Catering on Take-Home and Delivery Basis. Donald A. Yee started the first Chinese food delivery service. No meals are served to customers on the premises; all meals are loaded into a charcoal carrier heater and rushed piping hot by truck to the customer. Total cost of a meal varies depending on the price of the meal and charge for delivery in proportion to the distance delivered. In a 1000 sq. ft. building, 500 to 600 meals are prepared and delivered each day.

Vegetable Quantity Cookery. Various methods of cooking vegetables are given. Suggestions for vegetable dishes and sauces, and suggestions as to how vegetables may be served to have more appetite appeal are presented.

Luncheonette Management. Layouts of best design use all available space to the best advantage, thereby keeping down cost of deliveries, electricity, ventilation, and wages. Definitely decide what location changes are needed and then work to get them. Since the time element is all-important, be sure to include definite dates in your building contracts; include a penalty clause to insure you against loss from delays. Certain fundamental planning principles, such as an inviting entrance and adequate aisle space, are always applicable.

Mobile Meals. Soon people in New York State and Connecticut will be able to buy meals from a fleet of mobile feeding units which can sell 1000 ready-to-serve items without re-stocking. These "Meals-on-Wheels" coaches are one-man operated and travel within a radius of 25 mi. of their central commissaries.

Quantity Salad Preparation. Salad greens must be crisp; therefore, they should be kept as cold as possible without freezing. A good work table and adequate small equipment are essential for successful salad preparation. Kraut forks are suggested for mixing salads. For greatest efficiency be sure you are taking advantage of all the attachments available with your equipment. Numerous techniques are given for washing and preparation of salad greens as well as other salad ingredients.

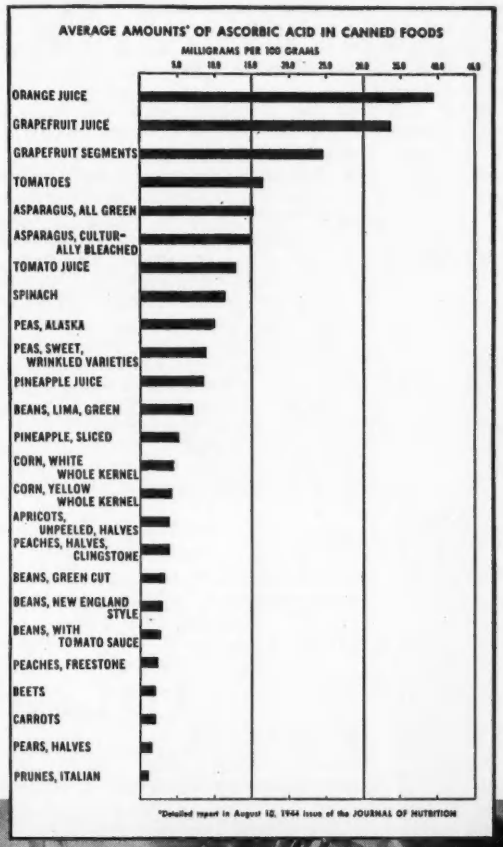
WHAT'S NEW IN HOME ECONOMICS

Vol. 2, September, 1946

*Careers in home economics—journalism. I. S. Wilson.—p. 14.
The fireplace moved, too! C. M. Concklin.—p. 44.
*Teaching for better living. D. E. Shank.—p. 48.
*A wealth of health—an incentive for breakfast. D. E. Shank.—p. 50.
Students plan for breakfast. D. E. Shank.—p. 52.
Students and teacher evaluate the lesson. D. E. Shank.—p. 54.
A canning lesson is urgent. D. E. Shank.—p. 56.
Teaching family relationships. M. M. Davis, E. L. Rudeseal, R. G. Engle, and T. L. Monical.—p. 58.
*The dealer and the food dollar. C. W. Dipman.—p. 76.
*Learning through use of school lunch inventory. T. G. Flanagan.—p. 95.
*What shall we do about rising costs? W. S. Pendergast.—p. 96.
The national school lunch program. M. M. Morris.—p. 98.
*Home economics or—. E. Harwood.—p. 126.
Linking canning with meal planning and meal planning with budgeting. S. P. Stooksbury.—p. 207.
Today's modern breakfast. Cereal Institute, Inc.—p. 217.

Journalism as an Outlet for Home Economics Training. To Katherine Goeppinger, associate professor of home economics journalism at Iowa State College, teaching is practical and interesting. Her students receive a technical, but general, background with rapid introduction into the professional world. The journalist must give useful meaning to known facts and findings of scholarship and research. Miss Goeppinger helps her students sell many of their writings. At present, 21 Iowa State home economics graduates are editors on 14 magazines and newspapers.

KNOWN FACTS ABOUT THE NUTRITIVE VALUES OF FOODS PACKED IN CANS



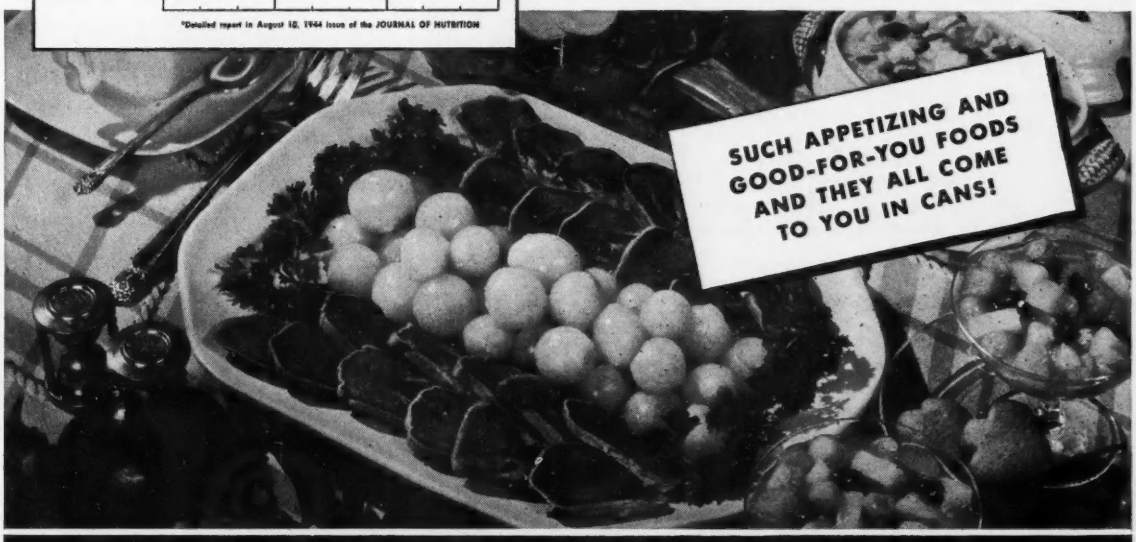
Actual net values now available in chart form

The chart on the left, third in this series, gives the average amounts of ascorbic acid in the most commonly consumed varieties of foods packed in cans.

These figures are the result of an exhaustive and continuing research program conducted at 5 great American universities. This program, now in its fourth year, is jointly sponsored by the National Canners Association and the Can Manufacturers Institute, Inc.

Not just another chart, the chart on the left—and each chart in this series—presents *net* values, actual on-the-table values in foods packed in cans. Therefore, their significance is plain. As you know, the figures usually quoted in nutrition tables are *gross* figures for raw, *uncooked* foods which do not take into consideration losses which occur in transit from field to market, to kitchen, *and* in home preparation.

Quite true, canned foods are a truly great class of foods. However, in order for them to receive the public acceptance they merit, we realize that canned foods need the recommendation of leaders in the professional fields. We sincerely request your support. A series of twelve charts on actual nutritional values of the most commonly consumed canned foods is now available in booklet form. For your copy, address: Can Manufacturers Institute, Inc., 60 East 42nd St., New York 17, N. Y.



No Other Container Protects Like The Can

Teaching for Better Living. The home economics guidance helps many girls and boys to adjust more readily to adolescence and to prepare for a future in a home of their own. The present trend is to provide as much home atmosphere in home economics departments as possible. Home economics subject matter should be closely related to actual student problems and needs, and courses should present vital information which contributes toward teaching for better living.

An Incentive for Breakfast. Eating an adequate and appealing breakfast is a good way to build up morale and vitality. Better breakfast programs, based on the needs of the class, have been successfully started in many schools. Definite goals, depending on the interest of the students, should be set for such a program. Surveys show that an inadequate breakfast is often responsible for poor class work.

The Dealer and the Food Dollar. The food store dealer's margin, or the difference between what the dealer pays for his merchandise and the price at which he sells it to his customers, must cover his rent, taxes, employees' wages, and other expenses. Margins vary according to the services rendered. The present average margin is 15 to 20 cents of the consumer's dollar. The average net profit to the dealer is 1 to 3 per cent. Food store margins have decreased markedly over the years due to the larger number of packaged foods and the increased efficiency of the markets. The average margin in the colonial store was 30 to 40 per cent.

School Lunch Inventory. In Florida school lunch inventories are used as class projects to obtain information needed by the school lunch supervisors, to make teachers and students more appreciative of school lunch problems and goals, and to obtain student ideas on improvements. The results of such inventories are given, and a sample of the questions used on the inventory is given.

Rising Cost. School lunchroom managers need not make a profit and, usually, need not pay rent, light, heat, and other charges. There are problems, however, including patrons who are extremely sensitive to prices and rising costs. Student participation declines sharply in low income groups when prices increase. In Detroit, a price increase was caused by labor, not food cost. The answer is that in addition to the income from the children, funds must come from the Board of Education, state aid, or increased federal aid.

Home Economics Or —. Home economics training should be included in the schedule of every boy and girl, so that they may benefit from a study of good manners, a knowledge of adequate nutrition, better grooming habits, and increased social poise. The tendency of some registrars to place students with lesser intelligence rating and those from the lower income groups in the home economics classes is one cause of lack of student interest in these classes. Conflicts in scheduling of classes sometimes cause a decrease in enrollment. The tendency of some mothers to feel that they can teach their children all they would learn in home economics classes no doubt influences the enrollments. To increase enrollment in home economics classes care should be taken not to teach what the student already knows. Teach new ways to prepare ordinary foods at no greater cost. Many additional suggestions are given for promoting enrollment in home economics classes.

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NEW VITAMIN E FACTOR ISOLATED

At the American Chemical Society meeting in September in Chicago, Dr. Max H. Stern of Distillation Products, Inc., Rochester, New York, reported that a new vitamin E factor called "delta tocopherol," has been isolated from soybean oil. It is known to be present also in wheat germ, cottonseed, and peanut oils. Although isolated in the form of a yellow oil, it has not yet been crystallized. Previously isolated members of the vitamin E-complex are called "alpha," "beta," and "gamma" tocopherols, hence the name of "delta" was chosen for the new member.

This new vitamin is expected to find wide use as a food preservative, for it is an effective antioxidant for vitamins and fats, indicating its value in preventing deterioration of such foodstuffs as lard and shortenings. Lack of it causes certain of these elements to be destroyed by oxidation in much the same manner that lard and other fats turn rancid when exposed to air. Vitamin E, once known as the fertility vitamin because lack of it in the diet causes sterility in rats, has been found to be essential in maintaining a healthy condition of the muscles as well. The delta form, however, appears to be most effective as a preservative, while the alpha form is more effective in curing experimentally produced sterility in rats.

The discovery of delta tocopherol is of particular interest to chemists who determine the amount of vitamin E in concentrates such as vitamin capsules. It was found to produce much more color with the test reagent than the other tocopherols when the test tube method of Emmerie and Engel is used; its presence, therefore, gave the impression that more vitamin E was present than was actually true.

>>◆<<

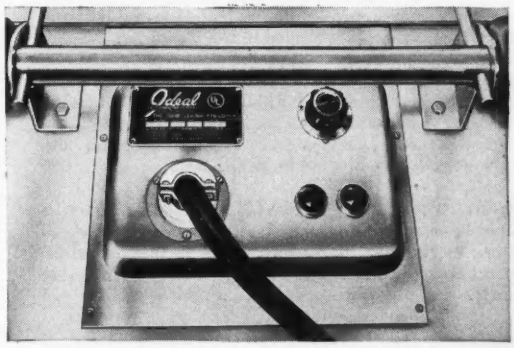
NEW CHEMICAL SUBSTITUTE FOR SUGAR

The New York *Times* reports that a new chemical compound, 4000 times as sweet as cane sugar, has been discovered by Professor Pieter Eduard Verkade, Delft Technical University, The Netherlands. The new substance, a benzene derivative, is expected to have far-reaching effects in the food, candy, and beverage industries, and is already being produced in The Netherlands. It is a powder-like substance and is produced in the form of orange crystals. It is one of a group of seven chemicals, the other members of which are from 120 to 2000 times as sweet as ordinary sugar. It has been given the name "1-n-propoxy-2-amino-4-nitrobenzene."

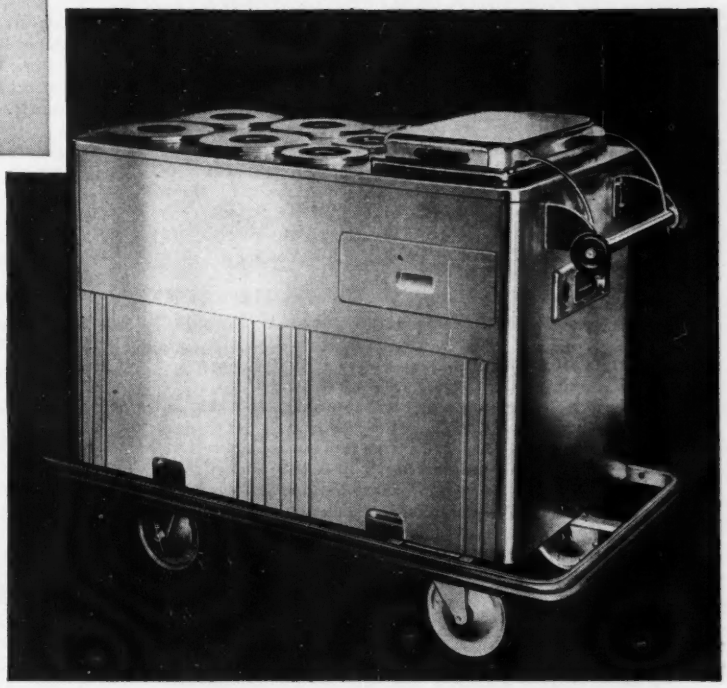
Ideal

FOOD CONVEYOR SYSTEMS
Found in Foremost Hospitals

DIAL CONTROL KEEPS COOKED FOODS FRESH!



Robertshaw Automatic Thermostat assures food at original kitchen-hot temperatures. Red pilot light shows conveyor is being heated. Green indicates serving temperature has been reached. Pilot lights are replaceable without removing panel.



Maintaining desired temperature, normal moisture, inherent flavor and appetizing palatability of cooked foods presents a far greater problem than the refrigerating of foods. The Ideal Temperature Selector permits you to "dial" any temperature up to 200° within the Ideal Food Conveyor. Automatic light signals keep you advised of temperature changes. This is only one of many Ideal Exclusive features which aid the hospital staff in solving food service problems. This is only one of many reasons why more hospitals are equipped with Ideals than all other makes combined. Write for Catalogue of Ideal Models meeting both service and budget needs.

THE SWARTZBAUGH MFG. COMPANY
TOLEDO 6, OHIO . . . ESTABLISHED IN 1884
DISTRIBUTED BY THE COLSON CORPORATION, ELYRIA, OHIO
California . . . The Colson Equipment & Supply Co., Los Angeles and San Francisco
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News Notes

School Food Service Association. At the 11th annual Food Service Directors' Conference, held at the Sherman Hotel in Chicago, October 10–12, the National School Cafeteria Association also held a convention. At the business meeting a consolidation of the two organizations was voted, and the new organization, called School Food Service Association, was formed. Constance C. Hart, director of school lunchrooms, Board of Education, Rochester, New York, was elected the new Association's president, and Betsy W. Curtis, supervisor of lunchrooms, Board of Education, Cincinnati, was chosen as president-elect. Next year's meeting of the Association will be held in Dallas, October 13–15, and the 1948 meeting will be in Detroit, November 4–6. One morning of the Chicago meeting was devoted to trips in the city and suburbs.

Symposium Held by the Nutrition Foundation. On November 13, a symposium on current progress in the science of nutrition, sponsored by the Nutrition Foundation, was held at the Waldorf-Astoria Hotel, New York. Dr. F. G. Boudreau, chairman, Food and Nutrition Board of the National Research Council, presided. Speakers and their topics were as follows: Dr. Icie Macy Hoobler, "Maternal and Infant Nutrition"; Dr. H. C. Sherman, "Increasing the Useful Life Span"; Dr. G. W. Beadle, "Nutritional Aspects of the Science of Heredity"; Dr. W. C. Rose, "The Nutritive Role of the Amino Acids"; and Dr. F. J. Stare, "Medical and Public Education in Nutrition."

Report on Research in Frozen Foods. Almost 350 projects are detailed in a report titled *Freezing Projects in Progress—1946*, which has been prepared by Dr. Jennie McIntosh, head of Frozen Food Foundation's food economics and nutrition research. This mimeographed report includes work being conducted in Canada and U. S. The Foundation's report is believed to be the most comprehensive tabulation of frozen food research yet compiled and includes the names of individual workers as well as a listing of organizations and projects. The projects are classified under the following categories: fruits; vegetables; meat, fish, poultry; specialties and dairy products; technology and refrigeration; economics; packaging; and home freezing methods.

Sir John Boyd Orr Honored. Among the 23 distinguished men and women who received honorary degrees from Princeton University during its bicentennial celebration was Sir John Boyd Orr, director general, United Nations Food and Agriculture Organization. His citation read: "Doctor of Laws; foremost authority on nutrition and health, champion of the hungry of all lands in their struggles for a better life."

Diet Manuals. *Johns Hopkins Hospital*, Baltimore, has recently released a revised edition of its *Manual of Applied Nutrition*. The manual attempts to show that so-called special diets are, for the most part, simply modifications of the normal diet. The material is clearly presented in digest form with little discussion. Such subjects as children's diets, weight and height charts, diets for pregnancy and lactation, various types of therapeutic diets, and recommended allowances are incorporated in the body of the *Manual*, while tray service, diet calculation tables, and weights and measures are included in the appendix.

Massachusetts General Hospital has issued a diet manual for use of dietitians, clinicians, medical students, and student nurses. It contains the standard recommended allowances, various therapeutic diets, tables on food composition, weights and measures, height and weight charts, and conveniently spaced pages for additional notes.

Forty-Hr. Week for New York City Nurses. Effective November 1, nurses in the Department of Hospitals, City of New York, received an increase in salary to insure a minimum of $2400 a year and began working on a 40-hr., five-day week basis.

Home Economics 50 Years Old at Ohio State. A formal celebration of the 50th anniversary of home economics at The Ohio State University was held November 1 and 2 at Columbus. Dr. Helen A. Hunscher, president-elect of the A.D.A. and head of the Home Economics Department, Western Reserve University, Cleveland, represented the Association at this meeting. She reports that in attendance were representatives from 75 colleges in 28 states and many of the alumnae. Thus a splendid opportunity was given for friends to exchange ideas on education and professional problems in many phases of home economics, and for the university administration to meet leaders and discuss problems of administration and education in home economics. The papers presented dealt with family life, education in relation to health, community, and housing.

Plentiful Foods. An all-time record crop of potatoes, estimated at 471 million bu. by the USDA, has been produced this year. This tops last year's crop by 30 million bu. The problem is to avoid waste by increasing consumption and storage space.

Much of the large citrus crop in prospect for 1946–47 will go into cans. Apple and grape juices will help swell the supply, and the prices can consequently be expected to be lower when the markets become well supplied.

New Food Products. Unusual frozen fruit juice blends have resulted from experiments conducted by W. V. Cruess, University of California. Combinations of grapefruit and prune juices, apple and apricot juices, orange and apricot juices and tomato juice with both lemon juice and grapefruit juice are expected to be marketed in the near future.

A new method of artificial dehydration of immature beans produces a dried Lima bean said to be superior in fresh color, flavor, and texture to the familiar mature dry Lima bean. By the old method, beans mature on the vine and are then dried by the sun and air before harvesting and threshing. With the new method, the beans are harvested while immature, then shelled, blanched, and dehydrated. The

at THE TOWN HOUSE in Los Angeles

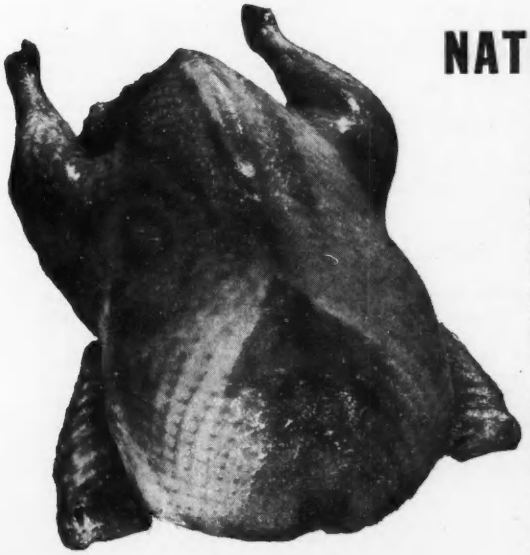
EXECUTIVE CHEF MAX KELLER

TURKEY
COSTS LESS TO SERVE

IN three delightful dining rooms . . . Cape Cod Grill, Garden Room, and Open Patio . . . of this luxurious Southern California hotel, six of the most popular entrees were compared in cost-per-serving by Executive Chef Max Keller. Result: *ROAST TURKEY COST THE LEAST OF ALL.* This fact will not surprise operators of food-serving institutions who keep active cost records; but it will be good news to all who are faced with the necessity of keeping food costs in line with attractive menu prices while continuing to please their patrons.

No wonder the use of turkey has doubled in the past decade, with hotels, restaurants, lunch counters, hospitals, school cafeterias, dining cars, clubs, and all food-serving institutions taking the new, meat-type, big tom turkeys that are made to order for institutional use.

Today's meat-type turkey, high in meat yields, full-breasted, tender, plump, is a triumph. It produces almost 50 per cent more finished meat than previously grown birds. Two thirds of this abundant meat is white. Even the largest sizes mature to a tender, juicy fragrance in one short season of twenty-four to thirty weeks. Available year 'round. Ask your poultry supplier, or write us for leaflet, "Turkey Costs Less to Serve," and new, comprehensive institutional users turkey handbook soon off the press—free.



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Please send me now_____free copies of pamphlet, "Turkey Costs Less to Serve," and reserve for me copy of TURKEY HANDBOOK for schools, hotels, restaurants, hospitals and other institutional users—FREE.

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plant scientists of USDA who have developed this new method believe that the superior quality of the "green" dehydrated Limas would well repay producers for the extra labor and expense of processing.

China's Famine Threat Lessened. The best rice harvest in 20 years is reported in the remote western provinces of China, the Yangtse Valley, and Manchuria. Ample rice supplies for the next few months are assured and granaries are being built in the larger towns to store the rice.

Veterans Administration Graduates 29 Student Dietitians. Announcement has been received of student dietitians who have completed training under the Veterans Administration since June. At the Bronx VA Facility, six students were graduated in June: Carl Dahlbeck, Helen Gaull, Mary Anne McCue, Mary Ann Murchie, Evelyn L. Norton, and Betty A. Schneider. Four more completed training in November: Elmira L. Heil, Virginia M. Naughton, Ruth A. Simon and Ella Wishor.

The Veterans Administration Facility at Hines, Illinois, graduated 13 student dietitians in July. They are: Josephine C. Arlauska, Rosary College, River Forest, Illinois; Mary Helen Compton, Miami University, Oxford, Ohio; Doris E. Dyal, Kansas State College, Manhattan; Marion E. Kohlmetz, Mount Mary College, Milwaukee; Ruth L. Ludtke, Mary Washington College, Fredericksburg, Virginia; Angela E. Murphy, Rosary College; Virginia M. Pollard, University of Nebraska, Lincoln; Dorothy Virginia Thoman, New Jersey College for Women, New Brunswick; Patricia M. Thompson, Mount Mary College; Dorothy Tomlinson, University of Arizona, Tucson; E. Janice Vickery, Florida State College for Women, Tallahassee; Patricia L. Weixel, Rosary College; and Constance M. Wheeler, Mount Mary College.

Six student dietitians made up the October graduating class at the Los Angeles Veterans Administration Facility: Ardith E. Christiancy, University of Nebraska; Ellen P. Davies, University of California, Berkeley; Marjorie M. Pease, Florida State College for Women; Elaine C. Shiell, University of California; Darlene C. Weinzirl, Stout Institute, Menomonie, Wisconsin; and Emily A. Zagoric, University of California.

Survey of Nutrition Among Canadian Indians. Reprints of four articles which appeared in the *Canadian Medical Association Journal* may be had from Merck & Company, Rahway, New Jersey. The articles, all of which deal with the health of the Indian in Canada, are: "Medical Survey of Nutrition Among the Northern Manitoba Indians," "Scurvy in a Cree Indian," "A Survey of the Ophthalmic Status of the Cree Indians at Norway House, Manitoba," and "Medical Practice Among the Bush Indians of Northern Manitoba."

Third American Congress on Obstetrics and Gynecology. St. Louis will be host to the third American Congress of Obstetrics and Gynecology, to be held September 8–12, 1947.

New York City Colleges Offer "Model Wife" Courses. The home economics departments of several colleges are being strengthened and a new department, under the direction of Dr. Anna K. Banks, has been established at Brooklyn College. Courses in child development and psychology, market conditions and family economics, food and nutrition, housing, home furnishing, family relationships, and home management are now included in the curriculum.

Postwar Version of the "Basic 7." For the first time, the Basic 7 food plan gives suggested quantities as well as kinds of foods recommended for good diet. How-much-of-what to eat daily is made clear in a revised version of the Basic 7 recently released by the Department of Agriculture's Bureau of Human Nutrition and Home Economics: (a) leafy, green, and yellow vegetables—one or more servings; (b) citrus fruits, tomatoes, raw cabbage—one or more servings; (c) potatoes and other fruits and vegetables—two or more servings; (d) milk, cheese, ice cream—three to four cups for children, two or more cups for adults; (e) meat, poultry, fish, eggs, dried beans, peas—one to two servings; (f) bread, flour, cereals—every day; (g) butter and fortified margarine—some daily. Single copies of a booklet, *National Food Guide*, and a colored wall chart telling which foods fall in each group may be had from the USDA.

The University of Michigan Hospital has enrolled 22 student dietitians for training in 1946–47. These young women come from 20 colleges and universities and represent as many states. To publicize this approved training course, Mable MacLachlan, president of A.D.A. and director of the course, issued a press release explaining the work of the dietitian and the training received.

Meat Purveyors' Meeting. Members of the National Association of Hotel and Restaurant Meat Purveyors met in Chicago, October 7, for their fourth annual meeting. New officers and directors were elected and a gift was presented to Arthur Davis of Edward Davis, Inc., the retiring chairman of the Board of Directors. Howard G. Ziegler was elected president of the Association. The various problems affecting the hotel supply industry were considered and recommendations were made to the Office of Price Administration relative to needed relief.

Program for Care of the Heart. The importance of diet in treating heart disease is mentioned in a new booklet, *Your Heart*, which is being distributed by field men of Metropolitan Life Insurance Company. The booklet is being used in connection with an educational campaign on heart care being conducted jointly by Metropolitan and the American Heart Association.

Advisory Committee for National Vitamin Foundation. Announcement of the appointment of eight scientists to assist Dr. Robert S. Goodhart, scientific director of the National Vitamin Foundation, has been made. The members of this committee are: Dr. Otto A. Bessey, Public Health Institute, City of New York; Dr. George R. Cowgill, Yale University, School of Medicine; Dr. Norman Jolliffe, Nutrition Clinic, Department of Health, City of New York; Dr. H. D. Kruse, Milbank Memorial Fund; Dr. Carl V. Moore, Washington University School of Medicine; Dr. Severo Ochoa, New York University School of Medicine; Dr. W. H. Sebrell, National Institute of Health; and Dr. Frederick F. Tisdall, University of Toronto.

News of State Associations

Arizona Dietetic Association. The fall meeting of the *Tucson Dietetic Association* was held at the Veterans Administration Hospital, September 17. "A Study of Mexican Dietary Habits" was presented by Ansta Barr of Phoenix.

Iowa Dietetic Association. The annual fall meeting was held in Iowa City on November 14. Dr. Henry A. Matill, professor of biochemistry, University of Iowa, spoke on "New Developments in Biochemistry." Other speakers and their subjects were: Professor W. L. Daykin, Commerce Department, University of Iowa, "Labor"; Dr. Kate Daum, "Choline Studies"; Dorothy Harrold, "High Pro-

The Foundation and its Seal have won the confidence of the profession by a policy of continually testing every product which bears the Seal or uses the Foundation name. No compromise is permitted with high standards established by the Foundation through the years. In addition Foundation approved Vitamin D products are backed by clinical studies on thousands of infants and children. These are the reasons why you can have absolute confidence in the reliability of Vitamin D potency in foods and pharmaceuticals bearing the Foundation Seal. You may recomend them without hesitation.

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tein Diets"; and Lenore M. Sullivan, director of food service, Iowa State College Annex, Camp Dodge, "Food Service at Iowa State College Annex."

Maine Dietetic Association. On October 11, the Association officially became affiliated with the American Dietetic Association. This brings the total number of affiliated state and territorial organizations to 46.

Maryland Dietetic Association. Swift and Company was host at a luncheon on October 24 at the Sheraton Belvedere Hotel, Baltimore, at which time they introduced their new products—meats for babies and meats for juniors. Frances Gibson, president of the Maryland Dietetic Association, was hospitality chairman at a friendship dinner, October 19, at the Emerson Hotel, Baltimore.

Mr. and Mrs. Fred Stone Kefauver (Evelyn Thomas) are parents of a daughter, Anne Stone. *Sue Webb*, a recent student at Johns Hopkins Hospital, was married to Leroy Shammann at Webster Grove, Missouri, on October 12.

Nebraska Dietetic Association. The Association met November 6 at the Cornhusker Hotel in Lincoln. The speakers at this meeting were: Dr. Harold C. Lueth, dean, University of Nebraska, College of Medicine, who spoke on "Educational Aspects of the Hospital Dietitian's Work in Providing Adequate Medical Care"; Breta Griem, president, Wisconsin Dietetic Association, whose subject was "The Dietitian—Citizen in Today's World"; and Marie Weesner, Personnel Department, Miller and Paine Department Store, Lincoln, who talked on "Happy Workers." Dr. Lillian Storms Coover, secretary of the A.D.A., was also a speaker at this meeting.

New Jersey Dietetic Association. The fall meeting of the Association was held at the New Jersey College for Women, New Brunswick, on October 31. Helen B. Hazen gave an address on "Promotion and Recruitment for Home Economics Training in New Jersey," while Mrs. Quindara Oliver Dodge spoke on "The Future of the Dietitian." A tea prepared by the seniors in the Home Economics Department of the college concluded the meeting.

New York State Dietetic Association. Officers for the coming year for the greater New York Dietetic Association are: President, Mary K. Bloetjes; Vice-president, Mary Ross; Secretary, Doris Johnson; and Treasurer, Marie Monette. The first meeting of the year was held at Flower-Fifth Avenue Hospital with Dr. Orpha May Thomas presiding. The subject of the meeting was "Dietetics as a Profession." Nelda Ross introduced student dietitians who had finished their course during 1946 and those who have begun training this year. James McKee of the vocational guidance staff of Teachers College, Columbia University, discussed ways in which vocational guidance techniques might be used to select college students best qualified to enter the field of dietetics. Panel speakers included Louise Stephenson, Elizabeth Cole, Inez Wall, and Marion Peterson. Margaret Byrns was hostess to the Association and guests at a reception following the meeting.

The November meeting planned by the public relations committee was devoted to postwar planning. In December, the meeting will be conducted by the diet therapy committee on the topic "What's New in Diet Therapy." The program for 1947 includes: January meeting on "Time and Motion Study," to be planned by the administration committee; February, "Mary Schwartz Rose Memorial Lecture"; March, a dinner meeting with the Home Economics Association; April, "Community Education," to be planned by the community education committee; and May, the annual business meeting and supper.

The *Greater New York Dietetic Association* has contributed $250 to the Grace MacLeod Scholarship Fund.

The *Buffalo Dietetic Association* held its first fall meeting at the E. J. Meyer Memorial Hospital on October 10. Helen R. Romafvkiewics, educational director of the Buffalo Nursing Association and instructor in public health nursing, University of Buffalo, was the guest speaker and spoke on the educational program and activities of that group.

Officers of the *Central New York Dietetic Association* are: President, Marjorie Burns, Nursing Bureau of the Public Health Bureau; Vice-president, Marion L. Hill, Syracuse General Hospital; Secretary, Marion Wright Kirchner, St. Joseph's Hospital; and Treasurer, Jane Meehan, Syracuse Memorial Hospital. At the October 24 meeting members who attended the national A.D.A. convention in Cincinnati gave reports of the meeting.

Officers of the *Rochester Dietetic Association* are: President, Velma Jordan; Vice-president, Ruth Kocher; Secretary, Helen Fleming; Treasurer, Aileen Morrison; and Program chairman, Louise Roderick. An open meeting was held in September at the Rochester General Hospital. Following a short business meeting, Sarah Nichols spoke. She was a social worker with the British children cared for by Eastman Kodak workers during the war. Miss Nichols, who had just returned from England, reported that English parents seemed well-satisfied with the training given their children in this country. She also discussed rations of food and clothing in Great Britain. Following the address, a lunch was served. Speaker for the October meeting was Dr. Curtis Baylor of the faculty of the School of Medicine and Dentistry of the University of Rochester. The meeting was held at the Rochester Institute of Technology.

North Carolina Dietetic Association. The annual meeting of the Association was held in Durham on December 4 and 5 at Duke Hospital. Exhibits from the American Dietetic Association and the State Board of Health will be featured. Sallie Mooring, Tiphaine Burgess, and Elsie W. Martin represented North Carolina at the A.D.A. convention in Cincinnati in October.

Texas Dietetic Association. The *Dallas Dietetic Association* is sponsoring a room of exhibits on foods and nutrition in the Dallas Health Museum—a new project organized by the Dallas Academy of Medicine.

Construction of a new special diet kitchen is being planned at the Santa Rosa Hospital. This kitchen will care for all special diets in the hospital, as well as the outpatient service. This project is under the supervision of Sister M. Relina Mueller, Helene Cavin Flinn, and Margaret Sauerberg.

Virginia Dietetic Association. The *Tidewater Dietetic Association* has contributed $25 to the A.D.A. Loan Fund for Graduate Study.

News about Members

The following members of the American Dietetic Association have recently accepted new positions and appointments:

Anna Mae Allen has accepted a position at the Louisville General Hospital, Louisville, Kentucky. She was formerly employed at the Michael Reese Hospital, Chicago.

Doris M. Barker, formerly at Bruns General Hospital, Santa Fe, New Mexico, is now at the University Dining Hall, University of New Mexico, Albuquerque.

Mary E. Barnard has left the Indiana University Medical Center, and is now at the Methodist Hospital, Indianapolis.

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Katherine Beckman, who was recently separated from the Army, is now employed at Baylor University Hospital, Dallas.

Evelyn E. Belmont is now at the Veterans Administration Hospital, Framingham, Massachusetts.

Gertrude L. Birkholz has been transferred from the Veterans Administration, Sheridan, Wyoming, to Veterans Administration Center Hospital, Cheyenne, Wyoming.

Louise Blair, formerly at Mercy Hospital, Chicago, is now at Clarkson Memorial Hospital, Omaha.

Betty J. Blauert has resigned from Charity Hospital, New Orleans, to accept a position with the Lily-Tulip Cup Corporation, Los Angeles.

Isabel Brody, formerly at Passavant Hospital, Chicago, has accepted a position as clinic dietitian at Mt. Sinai Hospital, Chicago.

Margaret O. Brown is now administrative dietitian at St. Joseph's College, Rensselaer, Indiana. During the war she was with the American Red Cross.

Edith W. Bruner recently joined her husband in Tokyo where she hopes to help in the nutrition program of Japan. She was employed at Gallinger Municipal Hospital, Washington, D. C.

Aurora Cammarata is now at St. Anthony Hospital, St. Petersburg, Florida.

Grace Carden has retired after 20 years as director of the Dietary Department, Strong Memorial Hospital, Rochester, New York.

Astrid Christiansen has resigned her position at Glen Lake Sanatorium, Oak Terrace, Minnesota, and is now at the U. S. Marine Hospital, Detroit, Michigan.

Audrey Knowles Davis has accepted an appointment as County School Lunch Supervisor, Tampa, Florida.

Marie E. Dohm, formerly director of nutrition service with the Cleveland Health Council, has resigned her position to spend a year traveling.

Marion V. Dore has accepted a new position at Valley Forge General Hospital, Phoenixville, Pennsylvania. She was formerly employed at Dibble General Hospital, Menlo Park, California.

Beulah C. Downs is now dietitian at Burbank Hospital, Fitchburg, Massachusetts.

Lucille Eder has accepted a position at Milwaukee Hospital, Milwaukee, as therapeutic dietitian. She was formerly at U. S. Marine Hospital, Detroit.

Jean Fleming has joined the staff at St. Mary's Hospital, Rochester, New York, as assistant therapeutic dietitian.

Lucia Fordyce has resigned her position with Krebs Dairy Company, Grand Rapids, to become food service director of the Y. W. C. A., Omaha.

Jeanette Frankel has accepted an appointment to U. S. Marine Hospital, Naponsit, Long Island, New York.

Josephine R. Friedman has resigned as assistant dietitian at Cleveland City Hospital to accept a position as chief dietitian at Sunny Acres Sanatorium, Cleveland.

Mary Anna Frost is now clinic nutritionist at Corwin Hospital, Pueblo, Colorado. She was formerly at Mt. Sinai Hospital, Chicago.

Mildred Garner, previously dietitian at St. Joseph's Hospital, Elgin, Illinois, is now chief dietitian, Pittsburgh Hospital, Pittsburgh.

Rosemary Gaughan has resigned her position at Englewood Hospital, Englewood, New Jersey, and is now at University Hospital, Baltimore, Maryland.

Kathleen Golden has resigned from the staff of Strong Memorial Hospital, Rochester, New York.

Shirley Gray, formerly at Boston Floating Hospital, Boston, has accepted a position as assistant dietitian at Grinnell College, Grinnell, Iowa.

Norma Haley, formerly at Cary Memorial Hall, Purdue University, Lafayette, Indiana, is now therapeutic teaching dietitian, Lafayette Home Hospital, Lafayette.

Dorothy E. Halladay has resigned from the Memorial Hospital, Wilmington, Delaware, to accept a position at Episcopal Hospital, Philadelphia.

Jean Hankin became ward supervising dietitian at Cook County Hospital, Chicago, on August 26.

Barbara McCutchion Holder resigned her position at Henry Ford Hospital, Detroit, to become therapeutic dietitian, Evangelical Deaconess Hospital, Detroit.

Dorothy M. Hull, formerly cafeteria manager for Westinghouse Company, Lester, Pennsylvania, is now home economist, Westinghouse Electric Supply Company, Baltimore.

Winifred Jaynes, formerly at The New York Hospital, New York City, is now at Yonkers General Hospital, Yonkers, New York.

Carolyn Jones began her work as therapeutic dietitian at Memorial Hospital, Houston, Texas, on October 21. Formerly she had been at Barnes Hospital, St. Louis.

Meredith Jones, formerly assistant dietitian, Syracuse Memorial Hospital, is now on the staff at New York Hospital, New York City.

Florence Grimas Karr, formerly at Fitzsimons General Hospital, Denver, is now at Massachusetts Eye and Ear Infirmary, Boston.

Kathleen Kienstra has resigned from Cincinnati General Hospital, Cincinnati, to accept a position as assistant dietitian, Alton Memorial Hospital, Alton, Illinois.

Julia King has been appointed chief dietitian of Medical and Surgical Hospital and Physicians and Surgeons Hospital, San Antonio, Texas.

Carolyn Knowles is a new member of the dietary staff at Clarkson Hospital, Omaha.

Ruth Kosanke has left the University Hospital, Cleveland, to become therapeutic dietitian, Iowa Methodist Hospital, Des Moines.

Helen E. Leary, formerly a Wave, is now supervisor of laboratory test kitchen of the Central Research Laboratories, General Foods Corporation, Hoboken, New Jersey.

Anne Mulhern Lenahan has resigned her position as chief dietitian, Wilkes-Barre General Hospital, Wilkes-Barre, Pennsylvania, to join her husband who is stationed with the Army in Italy.

Vera Lowenbach, who recently returned from service with UNRRA in Germany, is now assisting Dr. Norman Jolliffe of New York City Department of Health in the compilation of nutrition research data.

Doris Lupton, formerly on Baylor University Hospital staff at Dallas, is now head dietitian of Grace Hospital, Hutchinson, Kansas.

Marguerite McLeroy, who recently finished her training at University Hospital, Cleveland, is now ward supervising dietitian at Baylor University Hospital, Dallas.

Mary Magee has resigned her position at Monterey Hospital, Monterey, California, and is now dietitian at Sutter Hospital, Sacramento.

Marian Melby, who recently finished her training at University of Michigan Hospital, Ann Arbor, is now on the staff of Teachers College Cafeteria, Columbia University, New York City.

Marie Miller, formerly a student dietitian at Cook County Hospital, Chicago, is now assistant dietitian at Bismarck Evangelical Hospital, Bismarck, North Dakota.

Anne Mulcaster, until recently a dietitian for College Food Service, Muhlenberg College, Allentown, Pennsylvania, is now nutrition consultant for Forda Container Company, St. Albans, Vermont.

Lucille O'Connor is a new member of the dietary staff at the University Hospital, Omaha, Nebraska.

Jeannette Pangmon is the new therapeutic dietitian at Syracuse Memorial Hospital, Syracuse, New York.

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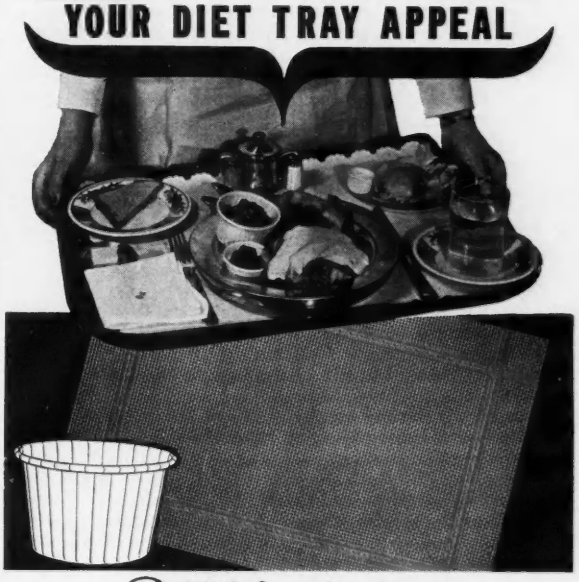

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Geraldine Piper, formerly food clinic dietitian, King County Hospital, Seattle, now has a fellowship in community nutrition at the University of Tennessee, Knoxville.

Mary B. Popwell, after completing her student training at Peter Bent Brigham Hospital, Boston, has accepted a position as clinic dietitian at Grady Hospital, Atlanta.

Helen Priebe, formerly at Harris Memorial Methodist Hospital, Ft. Worth, Texas, is now at Lubbock Memorial Hospital, Lubbock, Texas.

Kathleen Purtell, former clinic and therapeutic dietitian at Hahnemann Hospital in Philadelphia, is now chief dietitian at Milwaukee Hospital, Milwaukee.

Lillian E. Rack has been transferred from the Veterans Administration Hospital, Bronx, New York, to Veterans Hospital, Alexandria, Louisiana.

Mattie M. Reavis has left Roper Hospital, Charleston, South Carolina, to accept a position at Norburn Hospital, Asheville, North Carolina.

Ruth M. Reed has left San Francisco and is now at Tucson Medical Center, Tucson, Arizona.

Helen Sue Reynolds has been separated from the Army and has returned to Millard Fillmore Hospital, Buffalo, as head dietitian.

Loma Robley has left Chicago and is now employed by the Dairy Council of Kansas City.

Louise Roderick is now supervising the cafeteria service at Strong Memorial Hospital, Rochester, New York.

Priscilla Rodgers is now at Baylor University Hospital, Dallas, Texas. Until recently she was at John Sealy Hospital, Galveston, Texas.

Beatrice Rupp, formerly at St. Mary's Hospital, Detroit, is now administrative dietitian at St. Lawrence Hospital, Lansing, Michigan.

Vera Louise Schermerhorn, has a new position as assistant director of the cafeteria at Rochester Institute of Technology, Rochester, New York.

Mary R. Scott recently accepted a new position at St. Francis Hospital, Trenton, New Jersey. Formerly she was at Perth Amboy General Hospital, Perth Amboy, New Jersey.

Mary M. Shaw, who served with the American Red Cross, is now associate professor of home economics at State Teachers College, Nacogdoches, Texas.

Frieda Sherman has resigned from the Good Samaritan Hospital, Los Angeles, to accept a position with Dr. Leo Goodman as medical secretary and dietitian in Fresno, California.

Sister Ann Joseph Bast, formerly at St. Joseph Hospital, Lorain, Ohio, is now at St. Elizabeth Hospital, Youngstown, Ohio.

Mary Smiley has resigned as chief dietitian at Blue Ridge Assembly, Blue Ridge, North Carolina, to accept a position as chief dietitian for Willow Run Airport, Willow Run, Michigan.

Harriet Stevens has left Monmouth Memorial Hospital, Long Branch, New Jersey, to accept a position as nutritionist, New York State Department of Health, Division of Maternal and Child Health, Albany, New York.

Martha Scott Taft has recently accepted a position at General Hospital, Sawtelle, California. She was recently released from the Army.

Gayle Tammel is now at Bethany Hospital, Chicago. Until recently she was at Cook County Hospital, Chicago.

Phyllis Traynor has left Wyoming General Hospital, Rock Springs, Wyoming, to accept a position at Alum Rock Sanatorium, San José, California.

Anastasia Vaughan has accepted a position in the Dietary Department, College of St. Teresa, Winona, Minnesota.

Betty T. Whetstone, following her separation from the Army, has returned to her former position at Episcopal Hospital, Philadelphia.

Dorothy H. White has a new position at the New England Cafeteria, Corpus Christi, Texas. She was formerly at the University of Michigan Hospital, Ann Arbor, Michigan.

Elizabeth A. White has accepted a position as clinic and teaching dietitian, Touro Infirmary, New Orleans.

Lucy W. Woodson has left the Y.W.C.A. in Oklahoma City and is now dietitian in the cafeteria at the Oklahoma City Chamber of Commerce.

Matilda E. Zeuner has been transferred from Veterans Administration Facility, Jefferson Barracks, Missouri, to Veterans Hospital, Kecoughtan, Virginia.

Announcements of the following marriages have been received in the Journal office:

Florence Adelson was recently married to Sidney B. Saslow and is living in Brooklyn. She has resigned her position at Beth Israel Hospital, Newark, New Jersey.

Rose T. Baker is now Mrs. Charles Hopper and is living in Los Angeles. Before her marriage she was assistant director of the dining halls at Yale University, New Haven.

Jean Barker (née Mabey) has moved from Salt Lake City to Provo, Utah.

Jane Beardsley is the new Mrs. Justin J. Spence and is living in Wichita, Kansas.

Mary Beier (née Bristol) was recently married and is now living in Detroit, where she is dietitian in the diabetic clinic at Henry Ford Hospital.

Elizabeth Bitzer, while in service, was married in Nice, France, to Walter M. Barclay. They are now living in Philadelphia, where Mr. Barclay is connected with Sun Oil Company.

Martha Ann Collier, formerly an Army dietitian, is now Mrs. Donald T. Meisel and has moved from Denver to Fort Wayne, Indiana.

Lucille Coultrap (née Frech), following her recent marriage, is living in Geneva, Illinois.

Dorothy Day (née Osborne) has notified the A.D.A. of her recent marriage.

Murell Dilworth became the bride of Dr. Wilfred Jagd on August 16. Dr. Jagd is on the staff of Wadsworth General Hospital, Los Angeles.

Erma Smith Drastal was recently married and has moved from St. Maries, Idaho, to Rochester, New York.

Betty Jane Eckhardt was recently married to Bernard E. O'Malley and is living in State Center, Iowa.

Pauline E. Lewis has changed her name to Potter and has moved from Fitchburg, Massachusetts, to Milwaukee.

Second Lt. Alice M. McNeer was recently married. Her new name is Starkebaum.

Elaine Magdal's marriage to Edward Schorfenbuger, Jr., has been announced. They are now living in Ridgewood, New York.

Masako Nagao moved from Baltimore to New York City following her recent marriage to Chester Tanaka.

Marilyn Ott, formerly therapeutic dietitian at Saginaw General Hospital, Saginaw, Michigan, is now living in New York City with her new husband, Russel C. Phillips.

Jean Parizek was recently married to Edward K. Gaines. They are making their home in Napa, California.

Ivy Roach, formerly an Army dietitian, is now Mrs. Alfred Detroy Brooks of Jacksonville, Florida.

Eloise Rodgers, formerly of Tallahassee, Florida, is now Mrs. Norwood Waterhouse and is living in Macon, Georgia.

Marguerite A. Sabol left her position at Harvard Medical School to be married on September 2 to George W. Clendaniel, Jr. The couple are living in Hyattsville, Maryland.

Syrena M. Stockbridge has resigned her position at Veterans Hospital, Outwood, Kentucky, and is now Mrs. Walter C. Young of Pekin, Illinois.

Eldora Wohlert, administrative dietitian at Saginaw General Hospital, Saginaw, Michigan, was married to Andrew C. Rahe of Cincinnati on September 15.

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News from Advertisers and Exhibitors

Department store members of *Frozen Food Foundation* are taking advantage of the training programs offered by the Foundation. Among the methods of assistance given are the demonstration of frozen foods and low-temperature appliances in "kitchen carnival" promotion and in the store training of food and appliance sales personnel. . . .*Seco Company* has developed a complete line of seamless stainless steel pans and covers, under the name of "Seco-Ware," for steam tables, cafeteria counters, and salad units. The rectangular shaped pans are said to provide up to 50 per cent additional storage capacity. . . .The Gorgas Medal, sponsored by *Wyeth Incorporated*, was awarded to Brig. Gen. Raymond A. Kelser on October 9 for his work in eradicating rinderpest, a disease of cattle, in the Philippines, thus making it possible for the Filipinos to produce their own milk. The medal carries with it an honorarium of $500. . . .*General Foods Corporation* has introduced a self-rising Swans Down cake flour. In the production of this new flour, a fine, home-quality leavening and baking powder as well as a special salt are added. Available from General Foods is the *Master Menu Planner*, which offers a simple way to plan meals for various size restaurants and cafeterias. . . .*The National Live Stock and Meat Board* has announced the 1946 revision of their six *Food Value Charts*. The charts present graphically the relative importance of 32 common foods as sources of protein, calories, phosphorus, calcium and copper, and six vitamins in average servings in foods. . . . A booklet has recently been released by the Homemaker's Bureau of *Safeway Stores* titled, *Carol Drake's Favorite Foreign Foods*, which contains recipes from Mexico, China, Russia, France, Italy, and the Netherlands Indies. These recipes have been adapted to American food problems and customs. . . . *S. Blickman, Inc.* announces a new type electric hot food table, which stores food at the proper temperature for each specific item. It is operated by dry electric heat and requires no water or steam. Thermostats are set externally for each individual section. . . . *The American Institute of Baking* has recently published a booklet on nutrition, *Our Daily Food*, for children in the fourth through ninth grades.

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Report to Division of Engineering and Industrial Research, N. R. C.

Dietitians interested in industrial feeding problems will be interested in the resumé of the report to the Division of Engineering and Industrial Research of the National Research Council which is being distributed by *Mechanical Engineering*. In part, this resumé says that in-plant feeding has proved just as important a morale factor among workers as a nutritional factor, and that it is almost impossible to differentiate between the two factors without special studies being made.

It has been shown that industrial nutrition involves more than making available good meals; it involves the improvement of workers' health and productivity. To this end, the N.R.C.'s Committee on the Nutrition of Industrial Workers has recommended that the midshift meal supply at least one third of the recommended dietary allowances. It is also pointed out that industrial feeding can be particularly effective in making nutritious foods more available and in insuring better selection of foodstuffs. Naturally, precautions should be taken to conserve nutritive value in foods, both in handling and in cooking, and safe food must be served.

The basic factors in determining the requirements for any industrial feeding installation, regardless of size, are: (a) the total number of meals to be prepared; (b) the meal pattern; (c) length and number of lunch periods; (d) plant area and distribution of employees, and (e) capital investment. To insure satisfactory in-plant feeding, management must appoint competent managerial personnel who in turn can choose and develop an efficient, well-trained staff. Having made the choice of key personnel, management must give them authority, freedom, and opportunity in the food-service operation. Where management has decided to call in a feeding contractor to operate its program, careful consideration should be given to the financial arrangements in order to guarantee the best service. Whatever the financial arrangement with the contractor, management's interests are best served by having on its staff a well-trained and experienced administrative dietitian for liaison and supervisory purposes.

The establishment of an educational program in industry, directed to helping the worker improve his selection of food, has been found valuable to labor, management, and the food service operation. This educational program can be operated indirectly through food displays, price adjustments, improved food preparation, and luncheon specials, as well as directly through posters and other recognized educational techniques.

For white collar workers in congested city business areas, it is recommended that individual employers, white collar employee organizations, associations of employers, community nutrition and health authorities and organizations, and the management of large office buildings cooperate in establishing feeding facilities for such workers.

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The following abbreviations indicate the source of the material indexed: "ab," abstract under Current Literature; "cc," Current Comment; "ed," editorial; "f," filler; "nn," News Notes. An asterisk indicates an original article in this JOURNAL. Book reviews appear in the subject index under "Book Reviews." Author index, which follows subject index, includes only the names of authors of original material appearing in this JOURNAL in full or abstracted in the editorial section or in fillers, and authors of books reviewed.

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